

Building the world, better

Activity report

2021

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Executive Committee

1. Thomas Spitaels

Chief Executive Officer

2. Christophe Gilain

Managing Director, Member of the Executive Committee

3. José Castro Santos

COO, Member of the Executive Committee

4. Philippe Thibaut

CFO, Member of the Executive Committee

5. Carlos Baião

Member of the Executive Committee

6. Atul Bhoje

Member of the Executive Committee

7. William Meynard

Member of the Executive Committee

8. Amadou De

Member of the Executive Committee

9. Tom Van Looy

Member of the Executive Committee

10. João Recena

Member of the Executive Committee

Although the beginning of the year was marked by a long period of lockdown during the first quarter, particularly in India, Portugal and Brazil, favourable winds started to blow after the first quarter and 2021 financial year turned out to be very positive for TPF.

The sustained growth of 9.2% allowed us to reach €247 million in revenues for the 2021 financial year, which means we exceeded the operational levels recorded before the pandemic. The group experienced exceptional growth in Romania, where revenues almost doubled, and in Brazil where the increase was of 40%. TPF has shown profitability levels in line with budget forecasts, with an EBITDA of 14.1% and a net profit exceeding €5 million.

By managing our working capital, mostly through the reduction of our average time to collect, we were able to generate a free cash flow of €16.5 million, representing 6.7 % of our income for the year.

In 2021, we continued our commitment towards ESG (environmental, societal and governance) best practices. This annual report has also dedicated a chapter to our main achievements in this field.

In order to seize arising opportunities on the markets, our teams have been invited to think on how we can improve the production processes and development of our portfolio. We will come back to this matter in more details in the chapter dedicated to innovation, which presents our most promising projects.

Commercial activity has returned to its pre-pandemic level, and the group recorded €295 million in new orders during the year, resulting in a book-to-bill of 1.19. With an order book amounting to €499 million at the end of 2021, which represents 24 months of activity (MoO), the outlook for 2022 looks very positive. Organic growth should remain above 5% and the sustained improved profitability observed in 2021 should continue.

We would like to sincerely thank our 4,300 employees for their daily commitment. They were absolutely amazing. They are the foundation of our success and constitute our greatest strength when pursuing our ambition: building the world, better.



Philippe Thibaut

Chief Financial Officer



José Santos

Chief Operating Officer



Christophe Gilain

Managing Director



Thomas Spitaels

Chief Executive Officer



Interview

Thomas Spitaels

Chief Executive Officer

What were the notable aspects of the year 2021?

2021 was a very good year for TPF, although we had a first quarter similar to 2020, due to the fact that the Covid-19 pandemic particularly impacted certain regions of the world where we are very active. After that, we were thankfully able to see signs of improvement, and to finish the year above our budget forecasts, with an organic growth of 9.2% which meant operating income was able to return to the levels we had reached before the pandemic. The Group also achieved a positive operating performance with an EBITDA of 14.1%, and generated a significant net profit exceeding €5 million. The past few months have also highlighted some environmental, social and governance (ESG) issues. The progress we have made in this regard confirms our commitment to building a better future.

Can you tell us a little more about the progress that TPF has made in the field of ESG policies?

In December, we published our new Ethics Charter for Corporate Social Responsibility

(CSR). It reflects the group's aspirations and commitments on environmental, social and governance issues. It encourages us to face our responsibilities as an economic player and as a company. It also reinforces our commitment to the United Nations Sustainable Development Goals. For us to grow even further, it is essential that we strengthen our process for integrating and supporting new recruits (onboarding process). What makes this process also essential is the fact that it conveys the values and culture of the company. In 2021, we hired 1,250 employees spread across 20 different countries.

This allows us to further accentuate our ESG policy which includes the benefits of diversity. Diversity is a reality within the Group with more than 4,300 employees and 40 different nationalities, speaking 24 different languages. We respect each of them in their differences, and we want to make sure that there are absolutely no obstacles to their professional development. This implies professional equality at all levels of the company. We remain open to all opportunities offered to us around that matter, in order to establish measures of positive action. Despite the lack of gender parity in engineering



“ Our growth strategy has always focused on democratic countries that share our values.”

schools, we are doing everything we can to improve that balance, particularly within the company's decision-making bodies.

In 2021, we have also launched a global plan to study CO₂ emissions generated by our activities, in order to have a reference baseline, and to support our action plan to reduce our carbon footprint.

The war in Ukraine and inflation are making the news everywhere. Are TPF's activities affected?

The conflict in Ukraine has been affecting us all. The images we see on a daily basis create an overall atmosphere of sadness. Faced with the violence of the events, a feeling of powerlessness can overwhelm us, and remind us that we are unable to help more.

With regard to the company, we do not foresee any major negative effects on the Group's activities. We have carried out projects in Ukraine in the past, but we have stopped since 2015, and we have never been present in Russia. Our growth strategy has always focused on democratic countries that share our values.

Inflation and the general increase in construction prices have an impact on

the economy and in our activity. Most of our contracts have structures or clauses to mitigate these effects. In countries where such review clauses are not common, we are alert, supporting our teams to present the issue to our customers and so far, we have observed much goodwill for finding solutions.

How do you envision 2022?

Inflation is likely to remain high and interest rates will tend to rise. Infrastructure investment plans are underway in many countries, particularly in the EU, and will need to be maintained so that economic activity is not dampened and remains at positive levels. Investments in the defence sector will tend to increase, especially in Europe.

As for our order book, it reached a record level of €499 million, which is equivalent to 24 months of activity. We are therefore confident for the future. For the year 2022, we are aiming for a sustained organic growth, above 5%.

In these troubled times of history, we believe that our diversified portfolio in terms of services, sectors and geographic zones constitutes a remarkable force in overcoming the challenges we may face.



Can you tell us a bit about TPF's vision for the future?

We have just finished updating our strategic plan for the next five years. On this horizon, we are anticipating an organic growth of 5%. The core of our business strategy is to strengthen our presence in our current markets, by relying on our international references and improving cooperation between our Business Units.

We are focusing our efforts on improving management and production processes. These tools make it possible for us to acquire a better understanding of the market, to better position

ourselves, and to better identify the best internal practices. Other tools are also implemented such as business intelligence which allows us to better monitor our operations and to be more reactive if the need arises.

It is also clear that our customers are getting increasingly interested in the total cost of ownership, in order to estimate the total life cycle cost of an asset. The coming years will therefore require an increased integration between design, construction and operation. We believe that our expertise at all stages of the value chain will be an important source of competitive advantage. •

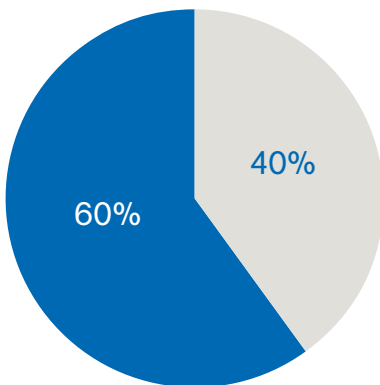


2021 key figures

Financial KPIs

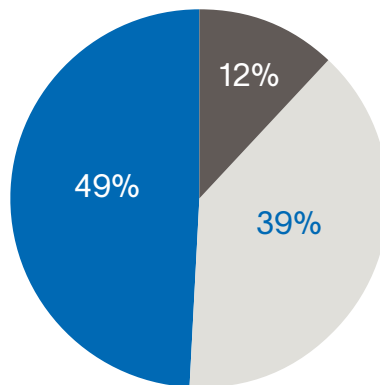
Revenue	Organic Growth	EBITDA	EBITDA %	Free Cash Flow
247 M €	9.2 %	34.9 M €	14.1 %	16.5 M €

Client Type



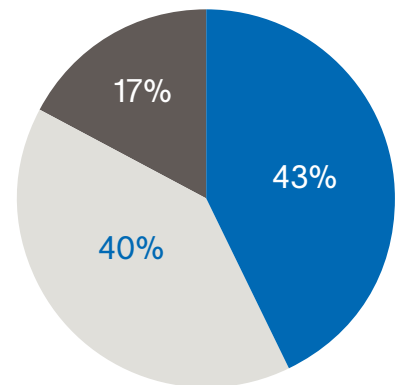
- Public
- Private

Service Type



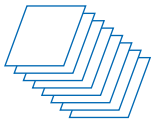
- Design
- Management and Supervision
- Asset management

Sectors



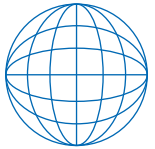
- Transport
- Building
- Environment

Repartition KPIs of the Revenue



Number of Projects

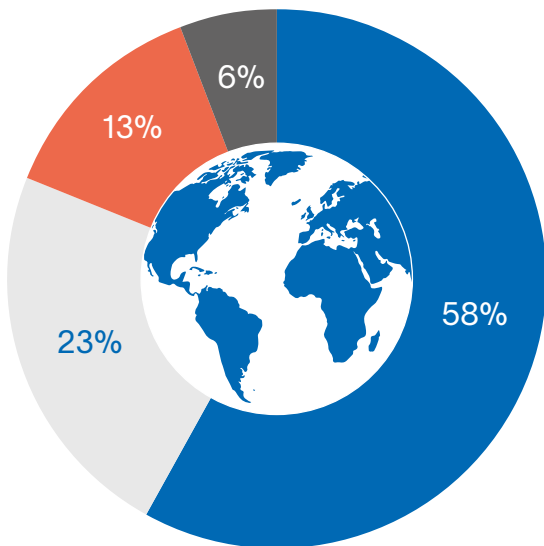
4704



Number of Countries

50

Geographical Split

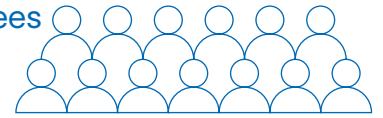


- Europe
- America
- Asia
- Africa

Human Resources KPIs

Number of Employees

4300

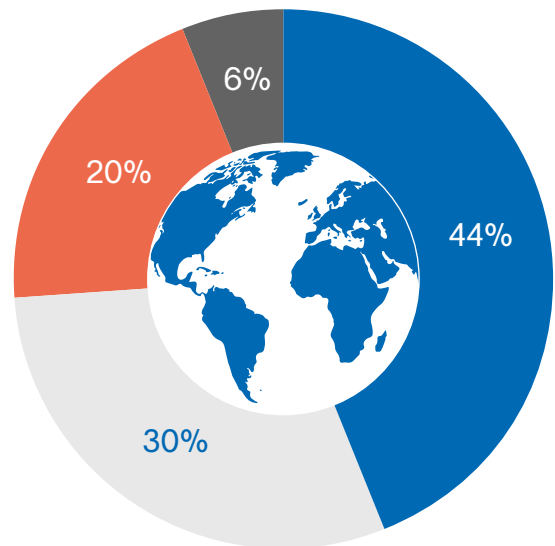


Gender Split

♂ **70 %** Men

♀ **30 %** Women

Geographical Split



- Europe
- America
- Asia
- Africa

Commercial KPIs

Order book in value

499 M €

Order book in Month of Operations

24.5

Book to Bill Ratio

1.19

Corporate Social Responsibility

The Ethical Charter for Corporate Social Responsibility was adopted by TPF last December.

It reflects the group's aspirations and commitments in the environmental, social and governance fields. Shared by the different entities of the group, this document makes sense because it reflects the concrete achievements of our teams in the field, all around the world.

Our group has long ago realized the urgency of climate change and the necessity of respecting the environment. It is no longer a question of interpreting the world and the dramatic consequences of climate change and unbridled consumption, but a question of what we must do to transform it.

We work in the infrastructure and construction sector, which are by nature long-term activities. We have been building subways and roads for decades. We clean up waterways to bring the ecosystem back to life. TPF's operations also take into account

the need to improve living conditions of local populations. Our programs for school education, institutional capacity and environmental education provide women and men with a greater capacity for autonomy. Our CSR Charter therefore does not aim for the short term, or only to improve the internal management of TPF, but also and above all, actions in the field and collaboration with our partners.

Protecting the environment, preservation of natural resources, protection of species are also essential in our activity. It is up to us to combine them with the needs and requirements of our partners and customers.

These social and environmental factors are no longer simply exogenous factors that we must respect. They are an integral part of our social and ecological commitments to improve the lives of communities served by our projects.

The world is global, as we were reminded by the IPCC and the Covid 19 health crisis.

The word is calling on us to take responsibility as an important economic player, and as a company.

Our commitment to 14 United Nations Sustainable Development Goals.



These 14 United Nations Sustainable Development Goals are achieved and implemented in the projects of our many subsidiaries.

Environment

During the past year, we carried out an initial analysis of energy consumption within the group. We will continue to monitor it during 2022 and the following years, with a view to developing a strategy that will allow us to reduce our carbon footprint.

It is of course a question of acting internally, on our buildings, our vehicle fleets and our transport for example, but also within the framework of our projects to influence our customers, so that they also follow these objectives. Circular economy, carbon reduction, resilient constructions, sustainable development, these are not just concepts, they must also be reflected in the field if we want to transform our societies.

In Brazil, TPF takes part in the implementation of the PROMABEN program, the largest sanitation program in Belém, the capital of the State of Pará

The program was created to solve the socio-environmental problems of the Estrada Nova basin. In addition to micro and macro-drainage works, the program includes a component of "institutional strengthening and social sustainability". No less than 300,000 people in seven districts are impacted by this project.



1



2



/ **Raquel Macedo**
Project Manager - Brazil

" The impacts that PROMABEN will provide to its own territory and its adjacent areas are evident. The proposed actions associate public policies for the development of economic activities, promoting productive sustainability in the area " /

1 Sanitation and environmental education program - awareness workshop, reuse of old tires

2 Sanitation works

In Nancy, France, the construction project of the Collège du plateau de Haye is a fine example of eco-construction

Eco-construction means using local organic and geo-sourced materials that meet the challenges of sustainable development. This is one of the many ways to reduce the carbon footprint of new constructions. This project, which should be completed in the course of 2023, proposes a passive bioclimatic strategy allowing it to reach the E4-C2 level of the BEPOS standard (Positive energy building). TPF provides all trades engineering for the project.





Equality, diversity, respect

Diversity is an asset. This is obvious for an international group like ours. And diversity only makes sense if it is accompanied by respect for each and everyone and their differences, and if there are no obstacles to professional development. And this requires equality at the different levels of the company. This is why we have made the promotion of women a priority within TPF. Despite the lack of gender parity in the training of engineers in schools and universities, we are making the necessary efforts to increase the presence of women in consulting, design and decision-making positions.

Governance, social dialogue and well-being at work

In our industrial sector, prevention, protection, and health and safety are essential to well-being at work. On construction sites as well as in workshops, our goal is to preserve the physical and mental health of our employees. These concerns are also the subject of constant analysis carried out with social organizations within consultation bodies, in order to further improve risk prevention.

Our objectives, our strategy:

Within the TPF group, we have set the following objectives:

- reducing carbon consumption,
- increasing equality between women and men,
- increasing safety and reducing accidents at work.

When implementing our projects:

- sustainable development,
- reducing energy consumption,
- circular economy,
- resilience of the constructions,
- prevention of Covid and other viruses,
- community interests.



Innovation and digital transformation



At TPF, innovation is the result of a joint effort that brings together our collaborators, partners and clients in co-creating value and delivering results that surpass expectations.

Diversity is an innovation catalyst and it manifests itself at TPF in a variety of ways. The geographical and cultural diversity of our teams allows us to tackle global challenges while being attentive to local contexts and particularities.

Our interdisciplinarity also enables the combination of different areas of knowledge into integrated solutions customized to our clients' needs.

In 2021, we took full advantage of that by promoting continuous exchanges between our global teams, thus strengthening competences and interpersonal connections. This was achieved by developing joint case studies and by promoting worldwide events to exchange knowledge related to TPF innovation axis:

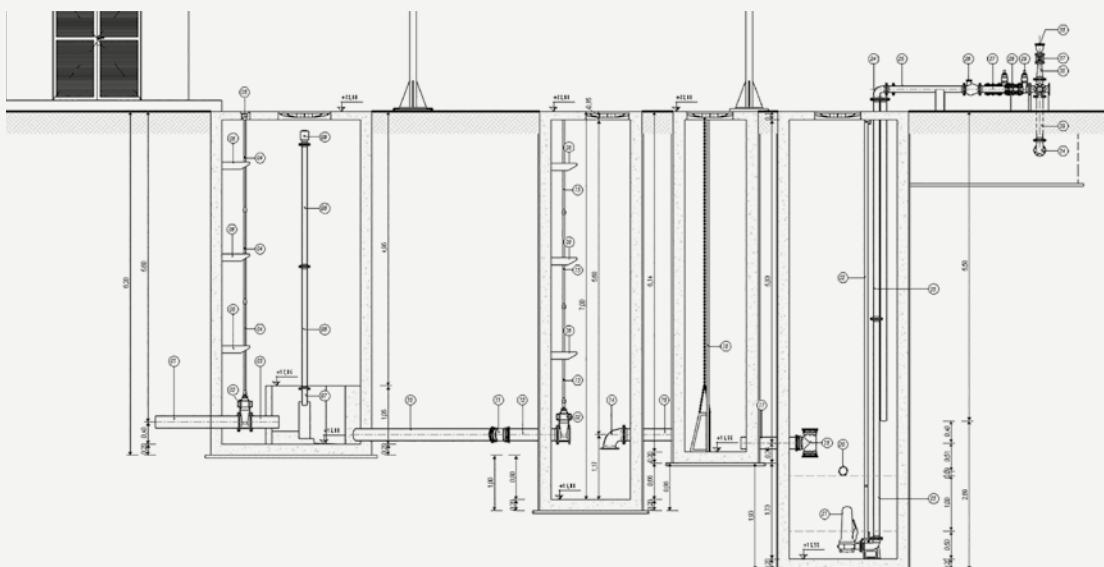
Building Information Modelling, Reality Capture and Data Analytics.

We continue to invest in the development of **BIM** skills and **digital infrastructure** to ensure a smooth full BIM transition.

Much progress has been done in uniformizing terminologies and concepts across our teams by sharing developments and best practices related to BIM Execution Plans, Object Libraries, Common Data Environments and various Software Integrations. Over the course of 2021, TPF's BIM leadership was showcased in several of our projects. In Spain, our BIM specialists worked in the extension of Malaga's Metro Line 2, a complex project which won the "Best Andalusian Public Works Award 2021" and allowed for fully leveraging on BIM advantages on a large scale urban environment. Also in Spain, the extension of the south quay of Valencia's port was the first port project completely done in accordance with BIM methodology in the country. In Portugal, Belgium and Brazil, automations through internally developed algorithms and routines allow for achieving productivity levels, quality and consistency that were not possible in non-BIM environments.

BIM automation routines and parametric design

For many years, our teams at TPF have been continuously developing their BIM skills. As we progress on this learning curve the gains and benefits of such an approach become more widespread. Our tech-savvy users increasingly leverage on the benefits of visual programming tools to develop parametric design models which result in great gains of productivity and consistency for recurring structures.



↑
parametric model
of a treatment plant



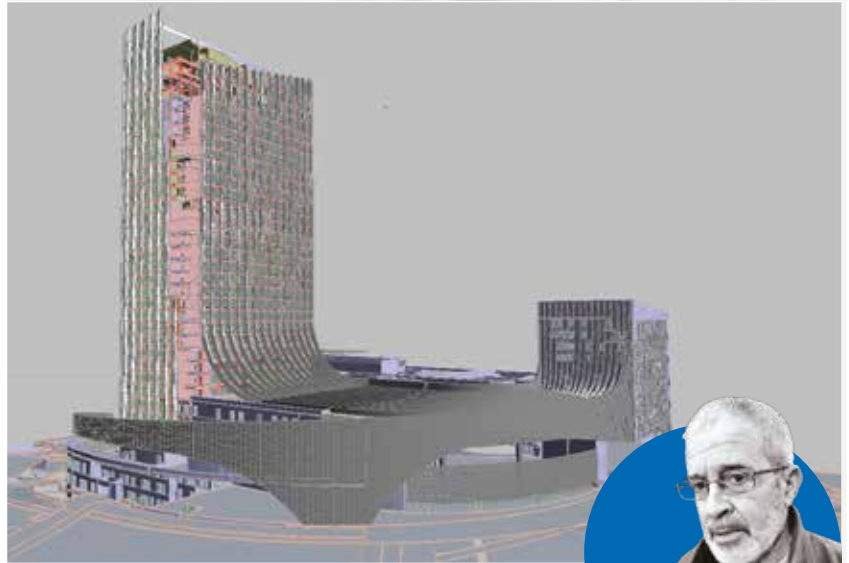
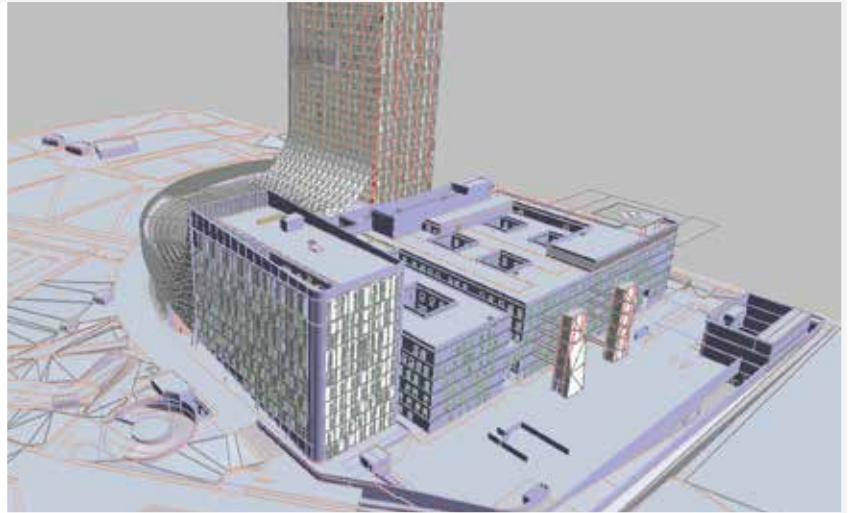
/ João Sobral
Operations manager
Belgium

“ At TPF, our greatest asset is our people. Constant exchanges with such diverse technical and cultural backgrounds allow for creativity to flourish. By combining different perspectives and ideas, we manage to find better solutions to the challenges we face.” /

In Morocco, our teams work together with AIA Life Designers to prepare detailed structural designs for the Ibn Sina Hospital Center, a complex general hospital with total capacity of 1,000 beds 100% developed following BIM methodology with high energy efficiency levels and conformity to rigorous seismic performance standards.

In Rabat, Morocco, the future Ibn Sina University Hospital Center with a capacity of 1,000 beds will occupy an area of 130,293 m²

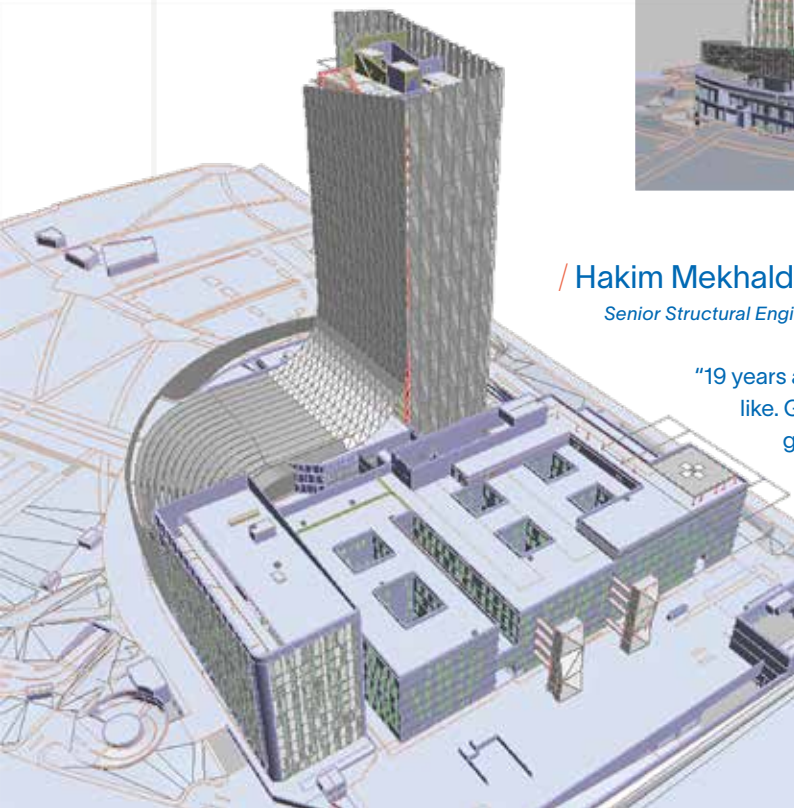
Combining technical prowess, architectural innovation and environmental excellence, the hospital will be built in a high tower, and in accordance with the particularly rigorous seismic construction rules in Morocco. In addition to the general hospital with a capacity of 916 beds, the complex will consist of the Institut de la Ligue cardiovasculaire with a capacity of 90 beds, a teaching and conference center as well as a boarding school. Our Moroccan team is involved in the execution phase of this 100% BIM project and produces detailed plans for the structure on behalf of the AIA – TPFi consortium.



/ Hakim Mekhaldi
Senior Structural Engineer - Morocco

“19 years ago, I joined TPF Pyramide to work in a field which I particularly like. Given the technological challenge of building a hospital, it is a great honor for me to be able to participate in a project as prestigious as the University Hospital of Rabat.

The acceleration of innovation in the building sector is impressive. Even 10 years ago, modeling was struggling to establish itself. Today, project management has evolved drastically with the arrival of artificial intelligence.” /



Be it on design, construction or operation phases, the characterization of the natural and built environments is crucial to the success of TPF projects. New technologies and trends such as drones and miniaturization of sensors allow for new ways of **capturing the reality** around us and for deeply transforming traditional ways of work. Since 2017, TPF has actively used drones in its services and, as technology and competences develop, their

use becomes more widespread among our projects. In Évora, Portugal, our teams conduct high precision drone surveys that show promising results and potential for greatly increasing productivity and accuracy of earthwork measurements for infrastructure works. In Brazil, drones already allow for frequent and efficient monitoring of safety and stability of embankment dams and roadways' right-of-way.

Construction of the new railway line between Evora and Elvas, Portugal (connection with the Eastern line): a major project for which we supervise the proper execution of the works

This new 88.5 km line features four sub-sections (Évora / station - Évora Norte, Évora Norte - Freixo, Freixo - Alandroal and Alandroal - Elvas). It is part of the Southern International Transport Corridor which will connect the European rail network and the main ports in southern Portugal to Spain such as Sines. This structure will initially consist of a single electrified track on a platform designed to accommodate a double track in the future.

The project also provides for the construction of three technical buildings as well as the construction of 84 engineering structures, including 55 current and 29 non-current.

No less than 200 technicians and engineers were mobilized for a period of four years on this large scale site in order to provide advice, technical management, health and safety coordination, and supervise the civil engineering works. TPF Portuguese team is using this opportunity to test developments in high-precision drone earthwork measurements under real conditions.



/ Nuno Fonseca

Technician responsible for monitoring the construction of engineering structures for the new Evora - Elvas railway line - Portugal

" I integrated smoothly within the group and I am delighted to be able to participate in the supervision of the largest rail project of the last 100 years in Portugal. It is a source of motivation, personal and professional enrichment. " /



Our French teams continue to push the boundaries of our expertise in the digitization of assets with 3D scanners and the development BIM models tailored to specific needs of clients. In Belgium, by combining these models with data fed from strategically located sensors, we are able to develop comprehensive digital twins for providing insights to energy efficiency of real world assets throughout their entire lifecycle.



@im-pact



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Digitization and modelling of Bâle-Mulhouse-Fribourg International Airport Control Tower, France

In the context of implement BIM strategy for our clients, our French teams worked in a pilot project aimed at developing a BIM model for the operation and maintenance of the control tower. The existing asset's architecture and equipment were modeled from point clouds obtained using 3D scanners. Maintenance data were integrated to elements and documents for the continuous implementation of the BIM process were also consolidated by our teams.

/ Julien Mercier

Director - France

“ The digital transition which is currently taking place in the construction sector is a wonderful opportunity to differentiate ourselves and bring more value to our missions. Companies in our sector which are able to collect and process data and can combine it in an intelligent manner will be the leaders of tomorrow.” /



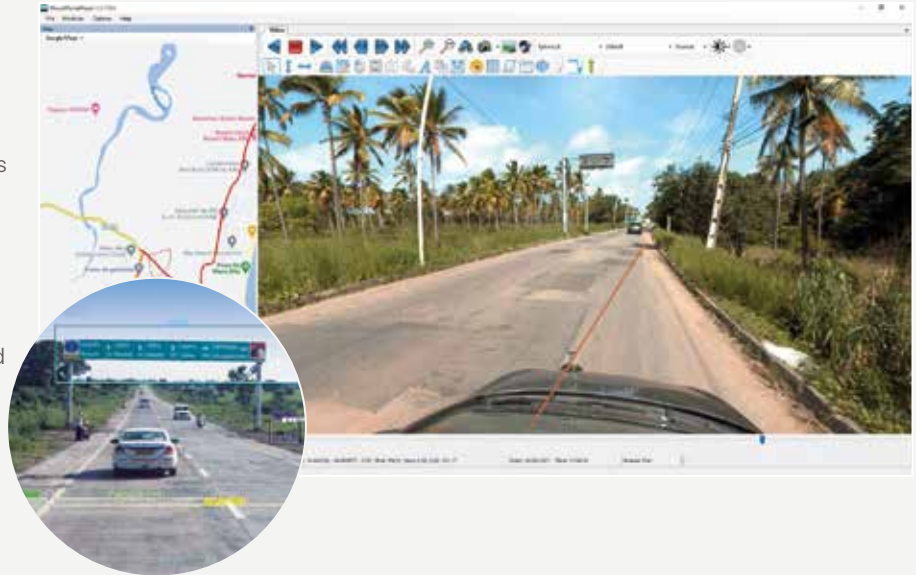
@im-pact

In India and Brazil, TPF survey vehicles have driven more than 10,000 kilometers in 2021 alone while using high performance sensors to reliably diagnose conditions of road networks. We continue to invest in state of the art technologies such as

Artificial Intelligence and Machine Learning to assist our Asset Management teams in processing the collected data while increasing the accuracy of our reports.

Asset Management and Road Network Surveys

Road networks are critical infrastructures that should be operated and maintained as any other built asset. TPF's asset management teams have done much progress in delivering precise reports on infrastructure conditions and designing solutions based on information captured by state-of-the-art sensors and supported by technologies such as Artificial Intelligence and Machine Learning.



More detailed BIM models and point clouds, real-time IoT sensors data and high resolution drone mapping increase the amount of information collected, stored and treated by TPF by orders of magnitude. In Brazil, our team responsible for carrying out the Nova

Ferroeste feasibility study faced the challenge of integrating more than 35 variables in order to optimize the alignment and design alternatives for the 1,300 Km-long railway that will cross more than 275 municipalities in South Brazil.

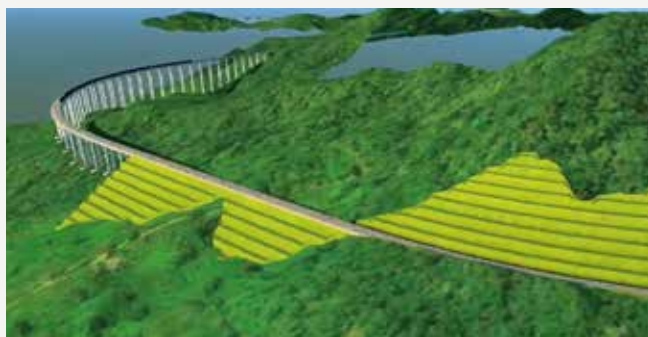
In Brazil, the feasibility study for the Nova Ferroeste railway project is about to be completed



This project has strong strategic stakes and was initiated by the Government of Paraná with the support of the Federal Government. This new 1 304 km long interstate rail freight corridor is intended to connect the many agricultural hubs. It will allow the transport of cereals (mainly soybeans) to the main production centers and the port of Paranaguá, and will reduce travel times, logistics costs and greenhouse gas emissions.

The scale of the project is evidenced by the following figures. The Nova Ferroeste project has 275 municipalities in its area of influence, representing a GDP of R\$205 billion (SIDRA, 2017) and nine freight hubs between the states of Mato Grosso do Sul and Paraná. The potential transport demand is estimated at 38 million tonnes of goods for the first year of operation.

It was in 2020 that the consortium bringing together TPF and Sener was selected to prepare the technical-operational, economic and financial, environmental and legal feasibility studies. Our team used Artificial Intelligence (AI) techniques to determine route alternatives taking into account 35 variables (relief, logistics, socio-environmental and socio-economic).

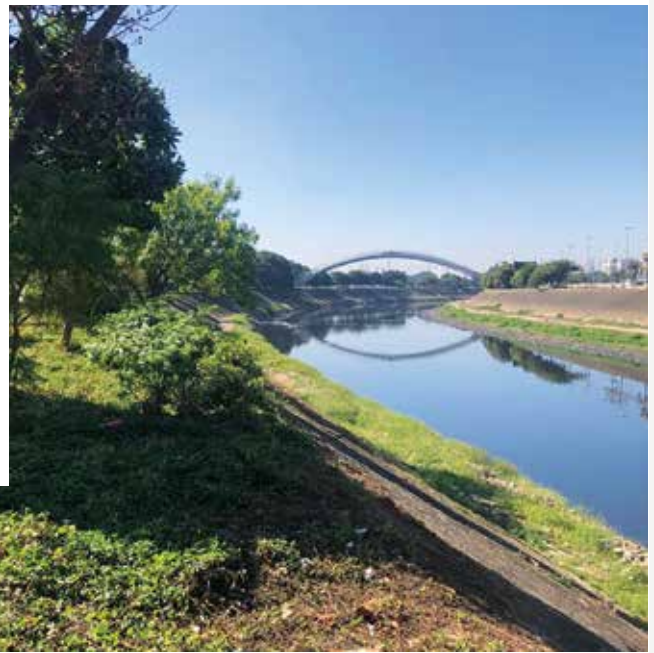


The ability to navigate such data-rich environments and to derive value from them are key skills that we at TPF sought to foster. Training programs, case studies developments and multidisciplinary teams are concrete actions that help developing **Data Analytics** skills and creating a data-driven culture among our collaborators and network of partners. This need for data maturity and digital competences is also something increasingly relevant for our clients and TPF is best

positioned to act as a facilitator of their digital transformation. In Spain, TPF has developed and is responsible for updating the national pavement management system for the Ministry of Transportation. In Brazil, clients such as SABESP, Latin America's largest water and waste management company, and the state of Pernambuco's Department of Transportation have trusted TPF teams with supporting the digital transformation of their activities.

The depollution of the Tietê River in São Paulo is the largest ongoing environmental remediation project in Brazil

Three years ago, the company in charge of water supply and sanitation in Greater São Paulo (Sabesp) appointed TPF, leader of the consortium formed with Engecorps to carry out this operation. The projects contributing to the success of the program are multiple and essential to improve the quality of life of the citizens of São Paulo. Eventually, the wastewater generated by 3.7 million inhabitants will be able to be collected and treated. In addition to project management and supervision, our mission is also to provide technical assistance. In order to optimize contract management, an integrated platform has been developed by TPF, as well as a mobile application that facilitates data collection, working both online and offline, and leveraging on dynamic analysis of this data powered by Business Intelligence solutions.



/ Conceição Araújo

Environment Coordinator - Brazil

" Acting directly in the expansion of sewage collection and treatment systems for millions of people, which directly impacts the population's health and quality of life, and restoring life on the largest rivers in São Paulo, is enriching and rewarding." /

This trend is also a reality for the Asset Management and Utilities sector. Pressure from surging energy prices and the urgency of reducing consumption to meet emission goals make it paramount to monitor, benchmark and control key indicators of built assets energy performance.

In Belgium, TPF has successfully implemented its digital platform to monitor real time data from smart metering sensors for several public and private clients as part of its asset management services. For achieving this, our collaborators need to integrate hardware infrastructure knowledge such as LoRaWAN protocols and Business Intelligence tools to provide our clients with simple yet actionable Key Performance Indicators and dashboards.

Further developments of TPF's platform are envisioned in order to enable functionalities such as optimization of energy production systems according to measured consumption profiles and predictive maintenance, enabling to take full advantage of the digital twin potential.

2021 was a very fruitful year for TPF's innovation initiatives. We have been consistently able to benefit from our diversity of geographies, expertise and cultures to recombine our knowledge into customized solutions to real-world problems. Our roadmap for the future is to advance on our learning curve, broadening our increasingly digital portfolio to continue to build the world better.

Building
the world,
better



2021 Activity

BY SECTOR



Bridge of Retorta,
International South Corridor
Évora - Elvas Line / Portugal
© Eduardo Hernandez Martinez

Transport



The COVID-19 pandemic shook up the world of transport and forced players in the transport infrastructure field to rethink tomorrow's mobility, making it more inclusive, more resilient and more sustainable.

Concern about climate change and the way we move around is now at the heart of the debate.

The need for infrastructure is nonetheless significant due to urbanization and population growth, globalization and the ecological transition, which involves the development of less polluting infrastructure and transport networks.

In addition to its impact on environment and health, transport also contributes to growth and inclusion. Sustainable and safe means of transport facilitate access to education, employment, services, infrastructure and trade.



Transport therefore plays a vital role in achieving the UN Sustainable Development Goals, primarily in achieving Sustainable Development Goal (SDG) 11 "Make cities and human settlements inclusive, safe, resilient and sustainable".

Achieving this objective is an essential condition for reaching certain targets of:

Goal 1



"End poverty in all its forms everywhere"

Goal 3



"Ensure healthy lives and promote well-being for all at all ages"

Goal 4



"Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"

Goal 5



"Achieve gender equality and empower all women and girls (by ensuring that transport meets the needs of women)"

As an international engineering player specializing in transport and mobility, TPF wishes to contribute to the success of this ambitious program.

Moving towards more sustainable mobility also means developing **RAIL TRANSPORT** to reduce CO₂ emissions. And in this area, there is an increase in investments dedicated to the modernization and construction of railway lines. We can name a few of the projects we are working on: the construction of the Nova Ferroeste railway line, which will stretch from Mato Grosso to the Brazilian export port of Parana over a distance of 1,370 km; the reactivation of the 498 kilometer Pacific rail network in Colombia; the construction of the Tren Maya in Mexico, a 1,452 kilometer mixed freight/passenger line; the modernization of the 502-kilometer Baku-Boyuk-Kesik section of the Kars-Baku Eurasian Rail Transport Corridor in Azerbaijan;

the construction of the new electrified double-track line Çerkezköy – Kapikule over 152 kilometers in Turkey; the revitalization and reconstruction of line n°182 Tarnowskie Gory in Zawiercie in Poland; the construction of the new Evora – Elvas railway line (connection with the Eastern line) over 88.5 kilometers in Portugal; and the rehabilitation of 140 kilometers of track between the Romanian town of Roman and the Modalvie border. Making train use more attractive also means making stations safer, more accessible, more comfortable and enjoyable. The Polish railway operator PKP understood this well and called on us for the construction/modernization of thirty of its stations.



/ Diego González

*Project Manager - Execution study Section 2
Escárcega - Calkini
Spain*

“ Tren Maya has been one of the most significant challenges of my professional career and personal life, not only because of the scale and technical complexity of the project, but also because it took place in the context of an unprecedented pandemic that no one could have foreseen, even in the worst-case scenario. It exponentially increased the complexity and level of expectations for this work, which are already considerable under normal conditions. We had to review our working methods and team organization in order to maintain productivity without compromising the quality of service provided to the client.” /



Successful follow up of the Tren Maya project, a 1,452 kilometer railway line crossing five Mexican states (Campeche, Chiapas, Quintana Roo, Tabasco and Yucatán) and connecting many tourist resorts

This new mixed rail line (passenger-freight) is a real driver of economic and social development for the regions concerned. TPF's contract includes the design of the 222 km section 2 between Escárcega and Calkiní in the state of Campeche, a single-track section comprising four viaducts, two stations and a maintenance centre.



/ Antonio Fernández Ledesma

*Technical Director – Execution study Section 2
Escárcega - Calkini
Spain*

“ Many colleagues within TPF have taken part to the incredible professional challenge of designing a 216 km railway line in Mexico. Personally, preserving our family balance was also a major challenge, since we have three school-age children and multiple trips to Mexico City were required. I think both professionally and personally, we all came out stronger.” /



In Turkey, the Çerkezköy–Kapikule Railway Line was awarded Project of the Year at the FIDIC Awards 2021



1

This prestigious award is given to projects that share the ambitions of the International Federation of Consulting Engineers in terms of sustainability, integrity and quality. The new 152 km electrified (25 kV) double track (passenger/freight) line, equipped with level 1 ETCS (European Train Control System), is part of the belt and road initiative between China and Europe. It is designed to reach maximum speeds of 200 km/h and will be part of the trans-European transport network (TEN-T). As a FIDIC Engineer, TPF was entrusted with the design of the section between Kapikule and Çerkezköy, on the Bulgarian border (including three stations), and also work supervision.





/ **Taylan Çorbacı**

Business Development Director - Turkey

" 2021 has been a difficult year for many industries in Turkey. Despite the strong devaluation of the Turkish lira, the transport sector is doing well. It has continued to attract significant investment and has taken a new direction in favor of sustainability. The next few years will be marked by the development and implementation of sustainable urban mobility plans for major cities. " /

In Romania, the rehabilitation of the Braşov-Simeria railway line will allow trains to run at a speed of 160 km/h

TPF is taking part in this large scale project as an engineering and consultancy office, providing consultancy in the field of execution management and for verifying the execution of construction and installation works. This strategic railway line connects the port of Constața to the Hungarian border and is part of the Rhine-Danube corridor, which crosses Romania over a distance of 880 km. Its renovation will allow to increase the circulation speed of freight and passenger trains, and improve safety levels and environment quality, while guaranteeing interoperability at European level. Work began in 2020 and is scheduled for completion in 2024.



It is important to prioritize **URBAN TRANSPORT** modes such as metro, tram, light rail and bus rapid transit (BRT), and to develop intermodal hubs in order to combat air pollution, improve passenger safety, reduce traffic congestion and ultimately make cities more livable. There are many ideas and initiatives being developed. The many projects in which we are involved include: redevelopment of the Brussels metro station Gare Centrale in Belgium; extension E of

the Algiers metro in Algeria; extension of the Inter2 high-level service line in Curitiba in Brazil; reinforcement and modernization of security in the Santiago metro in Chile; extension of the Malaga metro in Spain; construction of the Barcelona metro line in Spain; the new Porto metro line in Portugal and the development of the LIOS network (Linha Intermodal Sustentavel), an intermodal network around Lisbon consisting of two light metro lines.

Redevelopment works of the Brussels metro station Gare Centrale will begin in the spring of 2022

The work includes the metro station as well as the upper plateau going from the end of the pedestrian tunnel towards the railway station up to the station. This vast project also includes new stairs, the replacement and installation of new elevators and escalators as well as shops, bank ATMs and public toilets in the renovated space. TPF carried out the structural engineering and technical building services studies, in partnership with W.J. & M.C. Van Campenhout NV.

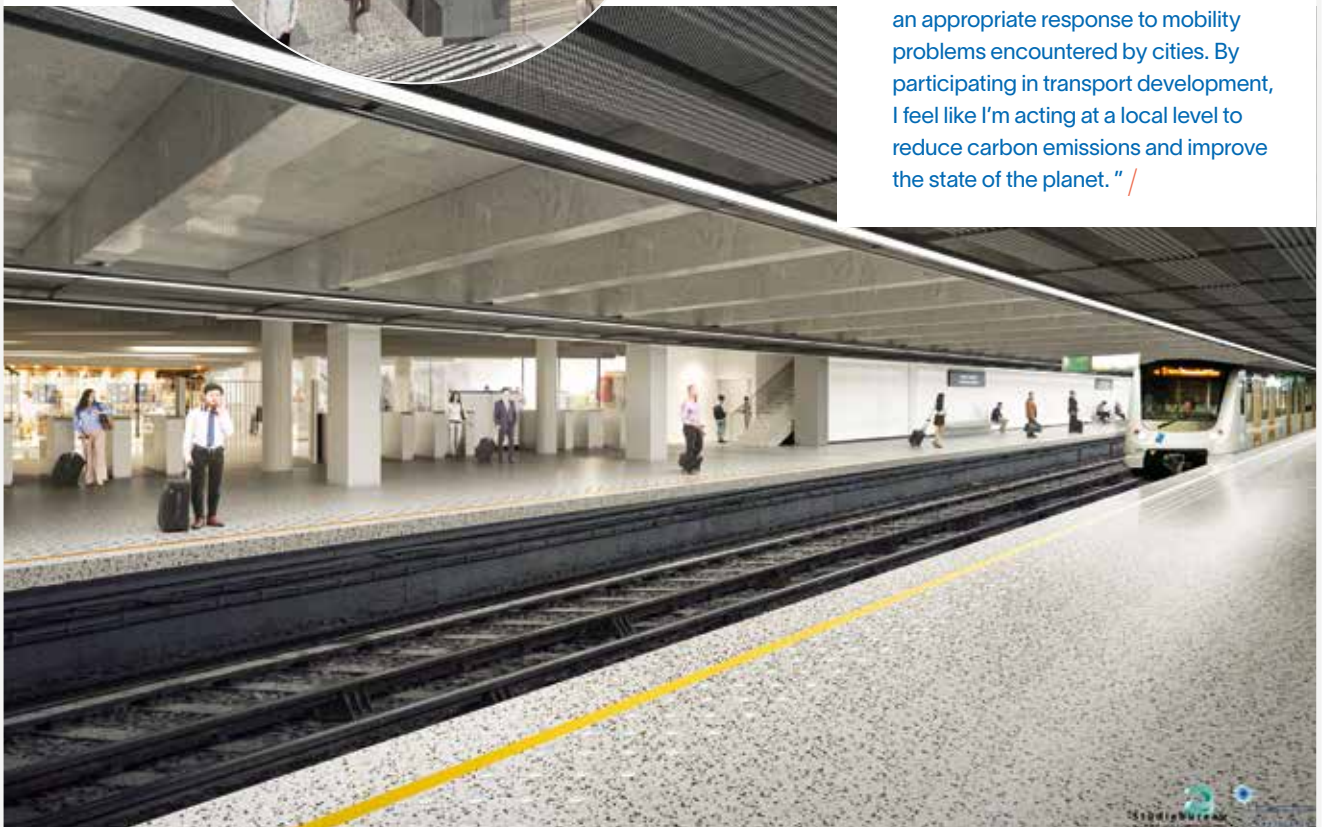


/ Alessandra Pace

Engineer, Assistant Director, Structural and Civil Engineering Department – Belgium

“ I joined the team of engineers who are designing the extension of the Brussels North metro. Seven new stations are featured in this project.

Public and collective transport provides an appropriate response to mobility problems encountered by cities. By participating in transport development, I feel like I'm acting at a local level to reduce carbon emissions and improve the state of the planet. ” /



The requalification and extension of the Inter 2 high-level service line in Curitiba, Brazil: a project that 118,000 commuters have been expecting for a long time

This initiative is funded by the Inter-American Development Bank (IDB) and the municipal authorities of Curitiba, the capital of the Brazilian state of Paraná. TPF is very happy to participate in the development of this project, which should generate 35,000 jobs over the next five years.



In Spain, the Málaga Metro Extension has been awarded the Best Andalusian Public Works Award 2021 by the Spanish Association of Civil Engineers (Andalusia, Ceuta and Melilla Division)



Our BIM specialists are currently carrying out infrastructure studies and exterior developments relating to the underground extension of line 2 towards the Civil Hospital - Malaga. Other works will be added to the construction of these 1.8 kilometers of additional tracks, such as the construction of three stations, as well as the construction of four intermediate shafts for ventilation, drainage and evacuation. The two-lane tunnel has a clear width of 8.3 m between walls and will be built in a cut-and-cover section with diaphragm walls, as will the stations and shafts. The baseline of the new infrastructure is below street level, at an average depth of 14 m, with minimum values of 12 m and maximum values of up to 23 m. This extension will provide many benefits, serving new urban areas, improving mobility and considerably increasing line attendance.

/ María Rosa Ureña Bolaños BIM Manager - Spain

“ Working as a BIM Manager on the Malaga metro project has been one of the most exciting experiences in recent years for TPF. We have believed in the potential of BIM for a long time, but this large-scale project in an urban area has really shown us the benefit of visually materializing information and linking geometric elements with “time” information or a construction schedule. ” /



A new metro line for Porto

In Portugal, the new Rosa line of the Porto Metro, which is entirely underground, should connect the Praça da Liberdade (Freedom Square) located in the heart of the city and the Casa da Música (House of Music), a concert hall located in the center of Boavista district. In total, 3 kilometers of double-track tunnel and four underground stations will facilitate access to the different areas of the city center. Our teams in the field monitor and control the execution of the work.



To achieve more sustainable transport, TPF is currently supporting the Madrid municipal transport company in the **DECARBONIZATION** of its bus fleet. The company intends to renew its fleet with less polluting electric and compressed natural gas (CNG) vehicles. The modal shift of freight transport from roads to **RIVER** and **MARITIME** transport is another alternative to reduce the environmental footprint. In Poland, we won an engineering contract with public water authority Wody Polskie for the river

project of the Oder, a river marking the border with Germany. The aim is to improve transport by inland waterways by creating a new axis for river navigation allowing the passage of Class 3 boats. As far as our participation in port projects is concerned, we can mention the modernization of the infrastructure of the Galati port in Romania, the construction of the deep water port of the Rio Grande de Buba in Guinea-Bissau and the drawing up of the new master plan for the Port of Suape in Brazil.

The construction of the Rio Grande de Buba deep-water port will be the largest civil engineering project ever undertaken in Guinea-Bissau

The contracting ceremony for the feasibility study for the construction of the Rio Grande de Buba deepwater mineral and commercial port and its concessioning took place on 29 November 2021 in the presence of the President of the Republic of Guinea-Bissau, several representatives of the African Development Bank (AfDB) and members of the consortium formed by our Brazilian and Portuguese subsidiaries. The study will encompass the technical, economic, financial, environmental and design aspects of the port, for the mineral part and also the commercial part.

The objective is to facilitate commercial traffic between West Africa and other regions of the world, to promote the creation of an integrated rail and road space and finally, to create a new development pole which will have an impact on neighbouring countries.



It is true that **ROAD TRANSPORT** and **AIR TRANSPORT** are largely responsible for emissions from the transport sector, but they remain essential modes of travel for social cohesion and economic development of the regions.

ROAD INFRASTRUCTURE

It is essential to encourage the use of electric vehicles on our roads and to support research and innovation in favor of sustainable products.

Among many examples, we supervised in Spain the construction works of the South Ring Road of Albacete connecting the A-32 Motorway. In this project, we can mention in particular the use of waste tire rubber powder for asphaltting, and hydro-seeding of green spaces around the ring road.

Another example is the modernization of public lighting for the structuring network of SOFICO, a project for which we carried out lighting studies and the field measurements. In Belgium, on motorways and the main roads of Wallonia, old sodium lamps have been replaced by intelligent and less energy-consuming LED lamps.

With regard to the modernization and construction of the road network, we have taken part in many projects, in particular: the development of the surroundings of the new 230 km long Abidjan-Yamoussoukro highway in Ivory Coast; the development of a single platform dedicated to collaborative management (PLUG) which will centralize all the data needed to manage the road network of the Brazilian state of Pernambuco, a total of 13,010 km of roads; the widening of the Los Comuneros road as part of the "Pact for Colombia" works launched on the occasion of the commemoration of the bicentenary of Independence; the construction of the San José northern ring road in Costa Rica; the modernization of transport sector management in the Indian state of Meghalaya; the construction of the Ghatkopar Mankhurd flyover in India; the extension of the motorway network in the Indian state of Maharashtra; the construction of the new 700 km controlled-access highway linking Nagpur to Mumbai in India; the construction of the new S12 expressway between Poland and Ukraine; the construction of the Via Carpatia transport corridor in Poland; the rehabilitation of part of the A1 motorway in the district of Porto in Portugal and the construction of the Sibiu-Pitesti motorway in Romania, the first motorway to cross the Carpathians.

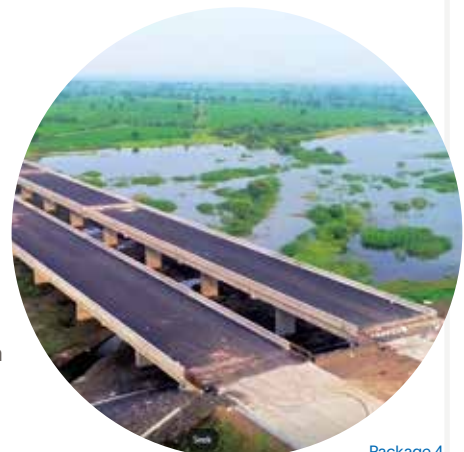


Package 8

In India, work on the new "Nagpur-Mumbai Super Communication Expressway" is progressing smoothly

The construction of this new 700 km controlled access motorway connecting Nagpur to Mumbai will promote the development of the Marathwada and Vidarbha regions. The TPF group is delighted to have been appointed Authority's Engineer to supervise the construction works for lots 4 and 8 of the motorway. It should be noted that the contract we won with the Maharashtra State Road Development Corporation (MSRDC) Authority is the result of collaboration between our Spanish and Indian teams.

The works of Package 8 (43 km) have been completed since September 2021, while those of Package 4 (54 km) are being completed.



Package 4



In Romania, Sibiu-Pitești Motorway will be the first motorway to cross the Carpathian Mountains

The contract we won concerns Lot 1, namely the 13.17 km section (km 0+000- 13+170) between Sibiu and Boita. Work is progressing at a good pace.

TPF was entrusted with the project management and supervision (during the design phase) as well as work supervision (throughout the time of the work and the period of notification of defects).

/ Angela Visan

Project Manager - Romania

“ The project management methodology used by TPF Inginerie proves to be a valuable aid for a project manager. It helps us carrying out projects such as the Sibiu-Pitești motorway, and so does the digital mindset within the company. Digital tools have become essential to meet the requirements of customers and projects.” /



The new S12 Expressway will significantly improve the capacity of transit traffic between Poland and Ukraine

On behalf of the General Directorate for National Roads and Motorways (GGDKiA), TPF is preparing the Project Documentation at the stage of the Program Concept for the construction of the S12 Lublin - Dorohusk expressway “Part 1: 34.60 km and Part 2: 22.96 km.

AIRPORT INFRASTRUCTURE

Travel by road remains difficult in Colombia and the rail network is almost non-existent. The reactivation of the Pacific rail network is eagerly awaited, representing no less than 497 kilometers of track between the port of Buenaventura on the Pacific and the freight station of La Felisa, in Caldas. But for now, airport activity is in full

swing. TPF continues to supervise the airport concession relating to six airports in the Center-South region.

In Europe, in France, TPF participates in the extension of Terminal 2 as well as in the rehabilitation of the North runway of Nice Côte d'Azur Airport. In Belgium, we are involved in securing the airport site of Brussels South Charleroi Airport (BSCA).



In France, at Nice Côte d'Azur airport, while construction of the new Terminal 2 is still under study, planes can now land on the newly renovated North runway

The work was carried out in accordance with EASA (European Union Aviation Safety Agency) constraints, and consisted of planing a layer of 20 cm to 35 cm over the entire length of the runway, i.e. 2,420 meters (140,000 m²) to renew the pavement using coated mix in order to provide the necessary lift for air traffic for the next ten years.

This major project also involved repairing markings on the ground and light beacons. Our French team was particularly involved in this project, since it carried out studies and ensured monitoring of the construction site, with a permanent presence on site due to the importance and short deadlines of the works, as well as the "OPC" mission (Scheduling – Management – Coordination).







Ramal Curimataú,
Cabaceiras project- Paráiba / Brazil
© Michel Awesque Holanda da Costa

Environment

Water – Energy – Socio-environmental



The latest report from UN climate experts (IPCC) is quite explicit. Climate change inevitably affects the frequency and intensity of extreme events, and has already had irreversible effects on the environment and human activity. These meteorological events (rising temperatures, forest fires, droughts, floods) occur all over the world. The floods of summer 2021 in Europe have revealed our vulnerability to the forces of nature.

This report confirms our determination to continue our action to:

- reduce greenhouse gas emissions,
- reduce human and material vulnerability to flooding,
- reduce the environmental impact of industrial projects,
- protect the environment,
- preserve natural resources and biodiversity.

In line with our international commitment to sustainable development, we wish to contribute to the UN Sustainable Development Goals (SDGs), in particular to:

Goal 2



" End hunger, achieve food security and improved nutrition and promote sustainable agriculture"

Goal 5



" Achieve gender equality and empower all women and girls"

Goal 6



" Ensure availability and sustainable management of water and sanitation for all"

Goal 7



" Preserving the flexibility of hydroelectricity and developing new sectors"

Goal 13



" Take urgent action to combat climate change and its impacts"

Goal 14



" Conserve and sustainably use the oceans, seas and marine resources for sustainable development"

Goal 15



" Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss"

The lack of access to **DRINKABLE WATER** remains a major problem in the world. This is even worse for lack of water which will affect 5 billion human beings by 2050 according to the WMO, the World Meteorological Organization. There are many challenges in terms of **WATER RESOURCE MANAGEMENT** and **DRINKING WATER SUPPLY**. TPF is determined to continue its mobilization to improve the situation. To name just a few of the projects in which we are involved: the extension of the drinking water distribution network (150 km of pipes and

15,000 household connections) in Luena, Angola; the strengthening of drinking water supply systems in the region of Saint-Louis in Senegal; the construction of the 71 kilometer long “Ramal do Agreste” water supply system, one of the largest hydraulic investments ever made in Brazil and the installation of a 4 kilometer long underwater pipeline named Sealine aiming to supply the French island of Porquerolles with drinking water.



The “Ramal do Agreste” drinking water supply project represents one of the largest hydraulic investments made in Brazil

Its goal: to supply drinking water to some seventy municipalities in the semi-arid region of Agreste, where no less than 2,200,000 inhabitants live. The development of this 71 km long water supply network required the construction of several hydraulic structures (canals, siphons, tunnels and dams). TPF used drones on this project to monitor the progress and quality of the work



Building drinking water supply systems is one thing, but they need to be maintained so that water is not wasted. Millions of cubic meters of water are lost every year in water networks due to leaks. TPF has all the expertise and detection devices required to locate and detect **WATER LEAKS**. Our Spanish subsidiary is working on this task in Spain where it has been tasked with inspecting no less than 14,500 kilometers of networks.

In line with the actions already carried out over the past few years, TPF relies on its experience to improve **SANITATION CONDITIONS** and reduce the vulnerability of cities to **FLOODS**. This year, we reaffirmed our commitment in this area and

contributed to several projects, including: the design of the wastewater treatment plant for the city of Taif in Saudi Arabia (367,000 population equivalents); the construction of rainwater drainage infrastructure and installation of wastewater collection networks in Pikine Irrégulier Sud as part of the Dakar-Diamniadio toll motorway project in Senegal; the modernization of the Barra da Tijuca wastewater treatment plant in Rio de Janeiro aimed at increasing the wastewater treatment capacity to 3.5 m²/s initially, then to 5.3 m³/s and still in Brazil, the depollution of the Tietê River in the State of São Paulo, which represents the largest environmental sanitation program in the country.



In Saudi Arabia, TPF is involved in a major project in the field of wastewater

The current contract concerns the detailed design of the wastewater treatment plant in the city of Taif. The SBR (Sequencing Batch Reactor) treatment plant, with a capacity of 367,000 population equivalents, will be able to treat an average of 100,000 m³ of wastewater per day, up to a maximum of 160,000 m³. We can mention that the entire project will be carried out in BIM, from the design phase to the operation and maintenance phase.

As a major player in the development of hydraulic structures, TPF also participates in the construction of **DAMS** intended for **DRINKING WATER SUPPLY AND IRRIGATION**. We can mention the following examples: the construction of the

Almudevar dam which will improve irrigation in northern Spain and the construction of the Frecheirinha dam in Brazil whose stored water (reservoir with a capacity of 85 million cubic meters of water) will be used for agricultural irrigation and water supply.

The construction of the Almudevar Dam is one of the keys to improving irrigation in northern Spain

The structure consists of two embankment dykes with a total crest length of 2,400 m and 3,525 m, the maximum height being 46.53 m above the foundations. The reservoir's water retention capacity at normal level (RN) will be 1,152 hectares and the volume may reach 169 hm³. This dam is part of the Alto Aragón Irrigation Regulation System and will be connected to the Monegros Canal via a conveyance channel approximately 1,301 m long. TPF was appointed to oversee execution of the works and provide technical assistance to the project owner in various aspects of the project (dam engineering and geotechnics, foundations and soil treatment, hydrology, hydraulics, dam safety, hydromechanical systems, monitoring systems, environment).



/ José Antonio Garralaga Tierz

*Head of Development of the Al mudévar dam
Spain*

" Since 2018, I have been in charge of monitoring and controlling the works of the Al mudévar dam, which will perhaps be the last large dam built in Spain. For this type of project, the execution time constitutes a record, and we have almost completed the construction of two dykes. I am delighted to be a part of this project, and it is very motivating to be surrounded by a team of very young, competent professionals who really care about doing their job well." /



Today, **HYDROELECTRICITY** represents one-sixth of the world's electricity production. It plays an important role in the range of renewable energies, and constitutes a response to the challenges of energy independence and security of energy supply and storage. Our hydroelectric engineering expertise allows us to support the development of large-scale projects such as the Tamega complex (1,158 MW) in Portugal, one of the largest hydroelectric projects developed in Europe over the past 25 years. It also means we are involved in several hydroelectric

development projects in other countries. In Kenya, in particular, we have completed the detailed preliminary design studies for two hydroelectric developments on the Sagana River and on the Yala River, which should result in the production of 45 MW and 10 MW respectively. In Mozambique, we studied the feasibility of the Mavuzi II hydroelectric project, the objective of which is to increase electricity production from renewable energy sources by around 37 MW.



Gouvães dam

TPF is a key player in the execution of complex and large-scale projects in Portugal: the Alto Tamega hydroelectric complex is a good example.

It is a set of three dams (Alto Tâmega, Daivões and Gouvães) with a combined electrical capacity of 1,158 MW but also the largest hydroelectric project in Europe designed over the last twenty-five years.

In 2021, we provided technical assistance for the construction of the Gouvães dam on the course of the Rio Torno (a tributary of the Tâmega), in particular during the first impoundment of the reservoir. The Gouvães hydroelectric scheme consists of a concrete gravity dam with a maximum height of 33.9 m and a crest length of 237.2 m. Thanks to the four reversible turbines of 220 MW each, the Gouvães power plant will be able to reach an installed capacity of 880 MW. It will be the most powerful plant in the Tâmega complex but also in Portugal. Thanks to its pumping system, it will be possible to store excess energy from wind or photovoltaic production.



/ João Cavilhas

Coordinator of the execution study for the construction of the Gouvães dam (Tâmega Hydroelectric Development) – Portugal

“ I consider myself privileged to work on dam and hydroelectric development projects, and to participate in one of the largest hydroelectric projects carried out in Europe over the last 25 years. I am extremely proud of it, and it also demonstrates TPF's ability to undertake large-scale projects. ” /

One of the main obstacles to the development of dams is undoubtedly their impact on the environment. These include flooding risks caused by dams, the potential risk of rupture for which populations must be prepared, and the social impact that the construction of a hydroelectric plant can have on the population. This is a well-known problem and TPF intends to act on several levels. In Brazil, for example, we are collaborating with Atlantic Nickel to make the Santa Rita tailings dam safer and compliant with Brazilian law regarding **DAM SAFETY**. This involves evaluating the conformity and operability of the emergency action plan for mining dams, and taking the necessary measures. We were also responsible for controlling the

STRUCTURAL INTEGRITY of two dams in the port of Porto Trombetas and twenty-four tailings supply facilities in the State of Pará. Furthermore, the company Norte Energia appointed us to develop several programs within the framework of implementing the basic environmental plan for indigenous communities affected by the construction of the Belo Monte plant, the largest 100% Brazilian hydroelectric project. In the same spirit, the National Thermal Power Corporation is mindful of its responsibilities regarding the state of the Malancha and Kendua ash dykes. In Farakka, they asked us to carry out geotechnical investigations whose objective is the safety of the inhabitants and the preservation of the environment.



/ **Terezinha Perna Silva**
Agricultural Engineer and Consultant in
agro-productive activities in Amazon
Brazil

“ In the work on the Iriri Route, the challenge begins in making contact with the tribes for alignment, conflict management, and collective planning of actions. Then there are the complex logistical factors, regarding location and paths taken to reach the villages, which, depending on the time of year, can take from 2 to 5 days. These factors make the work even more enjoyable and exciting.” /

Implementation of the Basic Environmental Plan for Indigenous Communities (PBA-CI) affected by the construction of the Belo Monte power plant, the largest 100% Brazilian hydroelectric project

Within the framework of laying out the Iriri road, in the State of Pará, we were asked by the company Norte Energia to implement several programs. Some of them are aimed at strengthening institutional capacities, improving school education of indigenous people, and safeguarding tangible and intangible cultural heritage.

Faced with the crisis caused by the pandemic, programs promoting production activities have been given greater priority in order to guarantee food security. The Iriri associations have been integrated into the network of Middle Xingu canteens, which has enabled them to sell products and generate income.

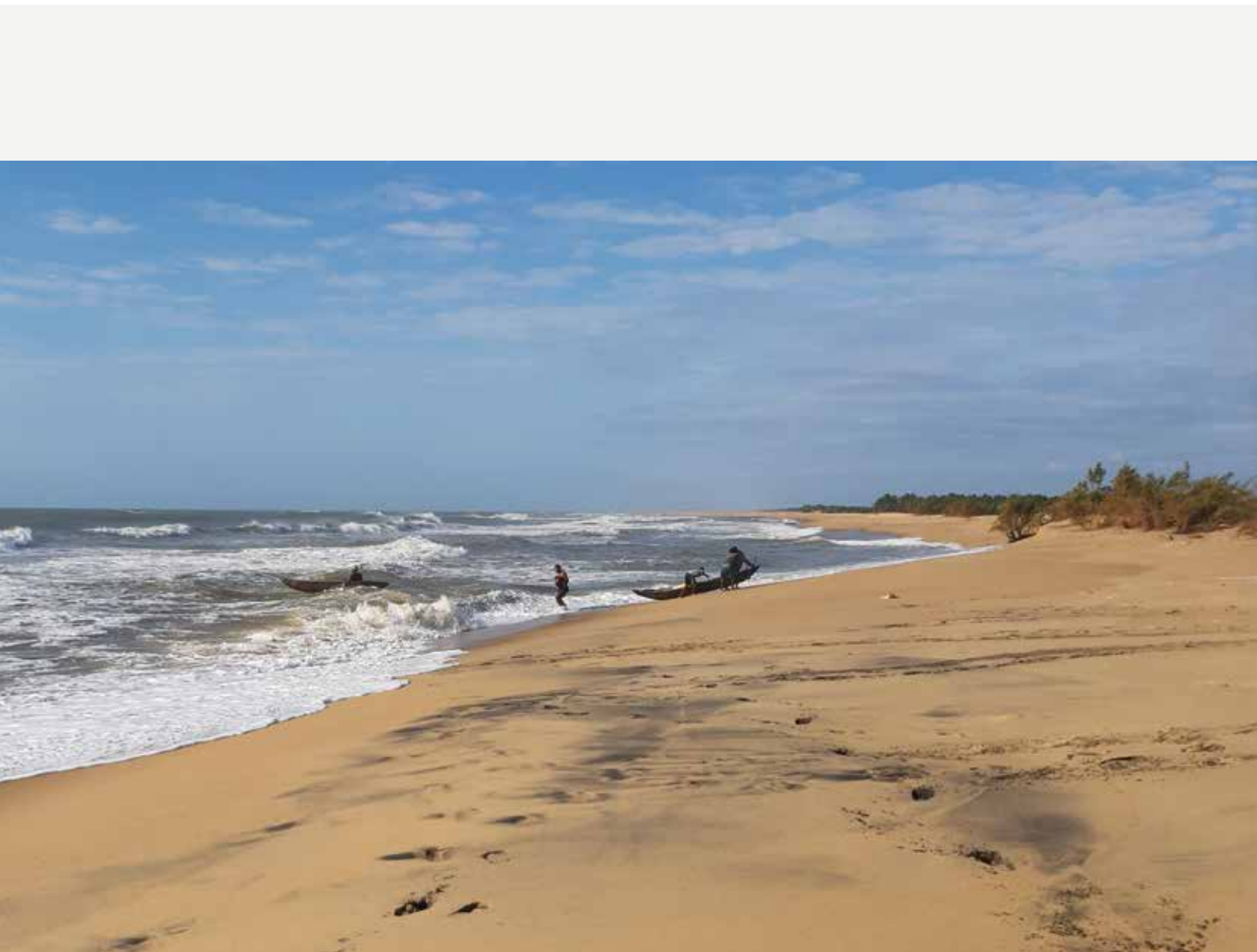
As for the implementation of the indigenous territorial management program, our mission concerns three indigenous territories (Arara, Cachoeira Seca, Kararaô), representing a total of 15 villages. Things are going well since several people have already had the opportunity to receive training as monitors or land protection and management officers.



When talking about sustainable development, social and environmental objectives should be taken into account when developing a project. This year our **SOCIO-ENVIRONMENTAL WORK** focused on several themes which are particularly close to our hearts. Our Brazilian team has carried out actions in favor of **women's economic empowerment** as part of the Mangarai pilot project, which aims to improve the quality and quantity of water in the Mangarai river. Our team was asked to draw up the assistance plan for **involuntary displacement of families** affected by the VALE mining group project. Finally, our team has also set up a program of **community relations** aiming to ensure the social acceptability of projects of the petrochemical company Braskem, and aiming to strengthen the consent of populations concerned.

The **RESILIENCE TO CLIMATE CHANGE, PREVENTION and FIGHT** against **FLOODS** are always at the heart of debates. We understand that cities of tomorrow will have to be resilient to climate change. The use of integrated solutions to manage

stormwater is essential today. Within this framework, TPF was tasked with ensuring the adequate execution of construction of the underground drainage tunnels in Lisbon, Portugal. In the extreme south of Cameroon, we are participating in the implementation of the emergency flood control project (PULCI) which consists in setting up water user associations (AUE) in irrigated perimeters of the Society for Expansion and Modernization of Rice Cultivation in Yagoua (SEMR). It also aims to strengthen the capacity of farmers to increase their productivity and improve water management and maintenance of the irrigation network. In Mauritania, the aim is to reduce the vulnerability of the Senegal River basin to climate change, by fighting invasive plants, restoring ecosystems and reducing the risk of flooding. With regard to the conservation and sustainable exploitation of the oceans, seas and marine resources with a view to sustainable development, TPF participated in the **MARITIME SPATIAL PLANNING** of Mozambique covering an exclusive economic zone of 562,000 km.



On track for the effective management of Mozambique's maritime space



TPF participated in the maritime spatial planning process in Mozambique, a process that is very useful for sustainable development. This project was launched by the Mozambican government through the Fisheries Development Fund and is financed by the World Bank. It covers an Exclusive Economic Zone (EEZ) of 562,000 km². The goal is to establish a roadmap and guidelines for the efficient management of maritime activities and the sustainable use of maritime and coastal resources. The objective is to create a coherent, transparent and sustainable decision-making framework based on evidence leading to planning and taking charge of maritime activities in an integrated manner.

Maritime Spatial Planning was the subject of a public presentation in June and was approved by the Council of Ministers in November 2021. This is great recognition for TPF and its partners.

Protecting the environment and biodiversity is also a permanent concern for nuclear operators. In this context, TPF carried out geotechnical investigations for the Bhabha Atomic Research Center (BARCF) with a view to designing the foundations of its new surface **RADIOACTIVE WASTE** storage facility in Kalpakkam in the Indian state of Tamil Nadu.



Building



Today, the building sector can no longer ignore the threats to which our planet is exposed. Facing climate, demographic, technological and digital challenges, our world must increasingly adapt to the new realities created by the Covid-19 crisis. Due to growing concerns about climate and depletion of natural resources, our professionals must meet the needs of a growing population, and encourage the construction and rehabilitation of buildings which emit less CO₂, integrate circular economy and produce more energy than they consume.

In the construction sector, TPF has an important role to play alongside its partners in order to achieve the Sustainable Development Goals (SDGs) assigned by the UN, and mainly the following:

<p>Goal 3</p> 	<p>Goal 4</p> 	<p>Goal 9</p> 	<p>Goal 11</p> 	<p>Goal 12</p> 
<p>“ Ensure healthy lives and promote well-being for all at all ages”</p>	<p>“ Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” and more specifically the target “accessibility of educational establishments”</p>	<p>“ Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” and more specifically the target “sustainable, resilient and accessible infrastructure” and “sustainability of industrial subsidiaries”</p>	<p>“ Make cities and human settlements inclusive, safe, resilient and sustainable” and more specifically the targets “safe and affordable housing”, “sustainable urbanization”, “protect the world’s heritage” and “ sustainable and resilient buildings”</p>	<p>“Establish sustainable consumption and production patterns”</p>

While BIM has been integrated into large-scale construction sites for several years now, other new digital technologies crucial for innovation are making their way into real estate, such as drones. Studies to be carried out when designing a building are no longer limited to its construction. They have to take into account the entire life cycle of the building, including operation, maintenance, deconstruction and recycling of materials. Our teams have been working on this, particularly in France and Belgium, which are countries where we are responsible for the technical maintenance of Belgian Defense

buildings, and energy maintenance of public buildings in the French towns of Fouquières-lès-Lens and Beuvry in Pas-de-Calais.

As a major engineering player, TPF’s role is to identify sustainable engineering solutions making a project possible. This year, whether it concerns designing, studying or supervising building construction, our international teams have had the opportunity to work on many large scale projects in the field or in the office.

TPF has been able to adapt to the constant evolution of the medical world, in particular due to new technologies, strict requirements in terms of technical installations and patient care focusing even more on well-being.

In the sector of **HEALTH**, activity was particularly intense this year, which is the proof that our subsidiaries have the knowledge required to build a hospital. This is also a sector where BIM has been given particular prominence. Among the highlights of the year, we can mention the inauguration of the Jules Bordet Institute in Brussels with a capacity of 250 beds, or the participation in several large-scale projects in progress:

the construction of two new hospitals of 320 beds each in the municipalities of Cacuaco and Viana in Angola; the construction of the Ibn Sina University Hospital Center in Rabat, Morocco, with a capacity of 916 beds; the renovation and extension of the Camille Guérin building on the campus of the Institut Pasteur in Lille and the construction of the New Trousseau Hospital for the University Hospital of Tours, in France; the construction of the Poznan Provincial Hospital in Poland and the construction of the Marie Curie Hospital in Bucharest, the first pediatric oncology and radiotherapy hospital in Romania.

In Belgium, the new Jules Bordet Institute, which is a European reference center for the fight against cancer, has opened its doors on the Erasmus campus of the University of Brussels (ULB)

This new flagship of medicine is located in Brussels and constitutes a reference center in Belgium for cancer treatment.

It brings together research and care activities in one place, to which 250 university beds are devoted.

The hospital offers a total area of

80,000 m² dedicated to hospitalization (including rooms dedicated to metabolic therapy), cancer treatment (operating area, intensive care unit, imaging and radiology department), research and teaching (general medicine and specializations).

It features innovative state-of-the-art

medical equipment and technologies. TPF carried out the complete studies in structural, civil engineering and technical building services in a joint venture with architects Brunet Saunier and Archi 2000.



© Marc Dettliffe



/ Yves Curfs

Project manager

Technical Utilities Division - Belgium

" I was part of the design and worksite monitoring team for the electrical installations of the new Jules Bordet Institute. It constituted a long process, but also a unique and unforgettable experience that will probably never happen again in my professional career. It was a fantastic adventure, filled with discoveries, and such a privilege to have been able to contribute to the construction of this new centre dedicated to the fight against cancer. This magnificent project can now bring hope to everyone." /



@Karel Duerinckx



@Karel Duerinckx



@Marc Dettlfe



@Karel Duerinckx



@Karel Duerinckx

The construction of Marie Curie Hospital, the first oncology and radiotherapy emergency hospital for Children in Romania, is progressing well

The project includes the construction of two buildings that can accommodate 200 children suffering from cancer. The future complex will offer specialized care adapted to the needs of each patient (oncology, surgery, neurosurgery, intensive care, etc.) as well as all the state-of-the-art medical-technical equipment (radiology, scanners, magnetic resonance). TPF is working on this project as head of project management.



/ Florentin Trache

Project Manager

Romania

“ By contributing to the creation of the Marie Curie pediatric hospital, I really feel that I am doing something useful. It is particularly close to my heart, and I consider myself very lucky to be part of this adventure. The nature of this project is really different from all others. Each of us has already been directly or indirectly confronted with this disease. I hope the work will be completed as soon as possible so that we can help children suffering from cancer. ” /

Activity in the field of **EDUCATION** is also at a very high level. The fact that there is a lack of school infrastructure is not a secret for anyone. Building, restructuring and renovating school buildings is therefore essential in order to guarantee adequate learning conditions. In this context, we participated in the construction project of the secondary school Plateau de Haye in France, a fine example of eco-construction. Eco-construction encompasses the use of local organic and geo-sourced materials that meet the challenges of sustainable development. This is one of the many

ways to reduce the carbon footprint of new constructions. Other projects have caught our full attention, such as the construction of the new French school of Alexandria in Egypt; the construction of a new childcare center with a capacity of 60 children, in Schaerbeek, Belgium; the rehabilitation of the ESCP Business School campus in Paris; the construction of the Higher School of Art and Design in Reims (ESAD) and the energy renovation of the Trotabas campus of the Université Côte d'Azur, in France.

In Egypt, a new French high school will be created in Alexandria to meet the needs of the French Secular Mission (MLF)

This remarkable project is developed in a consortium with Lebanese firm Plan Libre, and is progressing well since the technical studies were finalized this year. The construction should begin very soon.

This is not the first time that TPF has worked for the French Secular Mission since we had already been associated with the extension of Lycée André Malraux in Rabat and the construction of Lycée Louis Massignon in Casablanca.





@Ateliers 234 - Alma-studio

TPF is part of the winning consortium appointed by the Paris Ile-de-France Chamber of Commerce and Industry in the competition for the rehabilitation of the ESCP Business School campus



@Ateliers 234 - Alma-studio



@Ateliers 234 - Alma-studio

Alongside the agency Ateliers 2/3/4 architect, we were able to meet the challenges of densification, enhancement, modernization and opening of the historic site of the business school located in the heart of Paris. The renovation of this 19th century architectural ensemble is part of ESCP's strategic plan on sustainable development and innovation. The campus will be built around a large central courtyard with trees. New spaces will be created: coworking area, restaurant, terraces, rooftop. The complex will be open and the circulation redesigned by creating glass walkways and other passages. The site will feature over 20,000 m² of floor space and will be able to accommodate more than 5,000 students by 2027.



In Etterbeek, a district in the Brussels Capital Region, TPF brings its expertise to the "Paradis des Enfants" school complex project

The works consist in the demolition and reconstruction of the pre-school wing, and an extension of the primary school including the teachers' room, refectory, toy library and library. TPF carries out the entire mission as consulting engineer in structural engineering and technical building services, as well as the mission of EPB adviser, in partnership with ADE Architects.



The field of **OFFICE REAL ESTATE** has been particularly affected by the Covid-19 health crisis, and the design of buildings is now part of a sustainable development and well-being at work approach, giving priority to co-working spaces and landscaping. The role of buildings is evolving: they are becoming real energy producers with the installation of photovoltaic panels and electric charging stations. The construction of the new ING Bank headquarters is a great example. To achieve dual HQE and BREEAM Excellent certification, emphasis was placed on the use of renewable energies, the development of spaces for bicycles and cars, and landscaping. This project also highlights our ability

to adapt to the changes brought about by the health crisis, by implementing several covid-safe technical solutions. We have also contributed to a number of other prestigious projects: the construction of the new headquarters of the General Directorate of National Security (DGSN) in Rabat and the construction of 36,000 m² of high-tech office space as part of the Aerocity Anfa project in Casablanca, Morocco; the renovation of the Cité administrative of Mulhouse as part of the French government's investment plan for energy transition; the renovation of the National Bank of Poland in Warsaw and the construction of a new center for inspection and certification specialist SGS in Lisbon.

In Louvain-la-Neuve, Belgium, 740 employees of ING bank move into a brand new 10,000 m² building



/ Nour Jelti

Senior Project Manager
Technical Utilities Division - Belgium

“ Prowess in technical building services. The original mission was to develop a standard office building project, but ING Bank became the tenant and had their own description, which means plans and principles that were already developed had to be changed. This included a higher density of people, open levels to form a single compartment, integration of photovoltaic panels in the glazing of the atrium, industrial kitchen, specific data equipment, meeting room with audio-visual equipment, ... all these elements have doubled the power requirements and technical equipment for the same surface, while maintaining the same development schedule.” /



It is a major project designed by Jaspers & Evers Architects for MC² Development SA, in which our team has been involved since 2018.

It turned out to be an important challenge which involved constructing a building within a sustainable approach, opting for dual HEQ (High Environmental Quality) and BREEAM (Excellent) certification. To achieve this, emphasis was placed on maximizing natural light supply, installing photovoltaic panels, installing a rainwater recovery system, creating spaces for bicycles and electric cars, and landscaping.

This project has also highlighted the ability of our professionals to adapt to changes linked to the health crisis. For example, we have initiated several covid-safe technical solutions: ventilation groups, filters, sanitary facilities, general ventilation of the building. These missions were successfully carried out by our team in charge of

studies and monitoring of structural works and technical building services, the EPB mission and BREEAM support.



In Portugal, the Inspection and Certification Specialist SGS opened a new center in Lisbon

This new building of approximately 7,704 m² (gross construction area) consists of 3 above-ground levels and 2 underground levels for car parks and is erected on the site of the Lisbon Technopole (Lot 11), on a plot of 1,779 m². Mission is now accomplished for TPF, who was in charge of studies and monitoring work relating to technical building services.



/ Nicole Szczerbinska

Architect Assistant - Poland

" I had the pleasure to work on this project as an architect assistant. This is an emblematic building with high architectural value, which is included in the Inventory of Cultural Real Estate Heritage, and the challenge was absolutely daunting. The character and function of Block A must be completely changed, while retaining its historical identity and maintaining an almost unchanged external form of the building." /



In the center of Warsaw, the National Bank of Poland will be revamped



The project consists of renovating and partially rebuilding the "Block A" pavilion located in the historic buildings of the National Bank built in the 1970s. TPF

is currently preparing the design and cost estimate documentation.

The 21,500 m² building is listed as part of modern cultural heritage and is a true icon of post-war and post-modern architecture. Our team participated in the design of the project: reconstruction of the overground part of the building with renovation of the underground part. The project preserves the existing mass and character of the architecture, while introducing modern material solutions and giving the ground floor of the building a better connection with the urban space. The project consists of façade revitalization and adaptation of building interior for contemporary needs (bank, conference center, commercial services and office area). Construction is expected to start in 2023.



In the field of **RESIDENTIAL REAL ESTATE**, developments facilitating sustainable and community living are emerging and attracting more and more people. The trend is also to mix classic housing and co-living spaces, as evidenced by the River Place project on which we are working in Luxembourg. In Morocco, we focused on the residential component of the Tanja

Waterfront project as part of the conversion of the port area of Tangier. In Belgium, our focus was on the new sustainable and ecological district Erasmus Garden in Anderlecht. In Brazil, with regards to social housing, TPF oversees the construction work on 2,700 housing units for the Metropolitan Housing Company of Sao Paulo (COHAB).

In Rabat, the capital city of Morocco, work is progressing at a steady pace on the Carrousel site

This real estate project of the Imkan Group is currently being developed on the seafront of Rabat. It provides for the construction of 230 luxury housing units. TPF is in charge of the residential component and was appointed to carry out the complete technical studies and monitor the All Trades works.



In Brazil, the Metropolitan Housing Company of Sao Paulo (COHAB) has signed a public-private partnership for the construction of social housing and a local market

In consortium with the company Gepro Engenharia, we are acting as an independent auditor to control the implementation of the project. The contract we won concerns two lots for a total of 2,700 housing units.

In Belgium, more precisely in Anderlecht, the Erasmus Garden eco-district will eventually accommodate 3,000 inhabitants

TPF is participating in the creation of this new ecological and sustainable district as a structural engineering and special techniques design office. Acting alongside partners A2RC Architects-JNC International for BPI and ADE Architects-In Advance-Jacques Delens for the Housing Fund, our team is particularly proud to have participated in the design of four apartment buildings (214 apartments).



@KarelDuerinckx



@KarelDuerinckx



@KarelDuerinckx

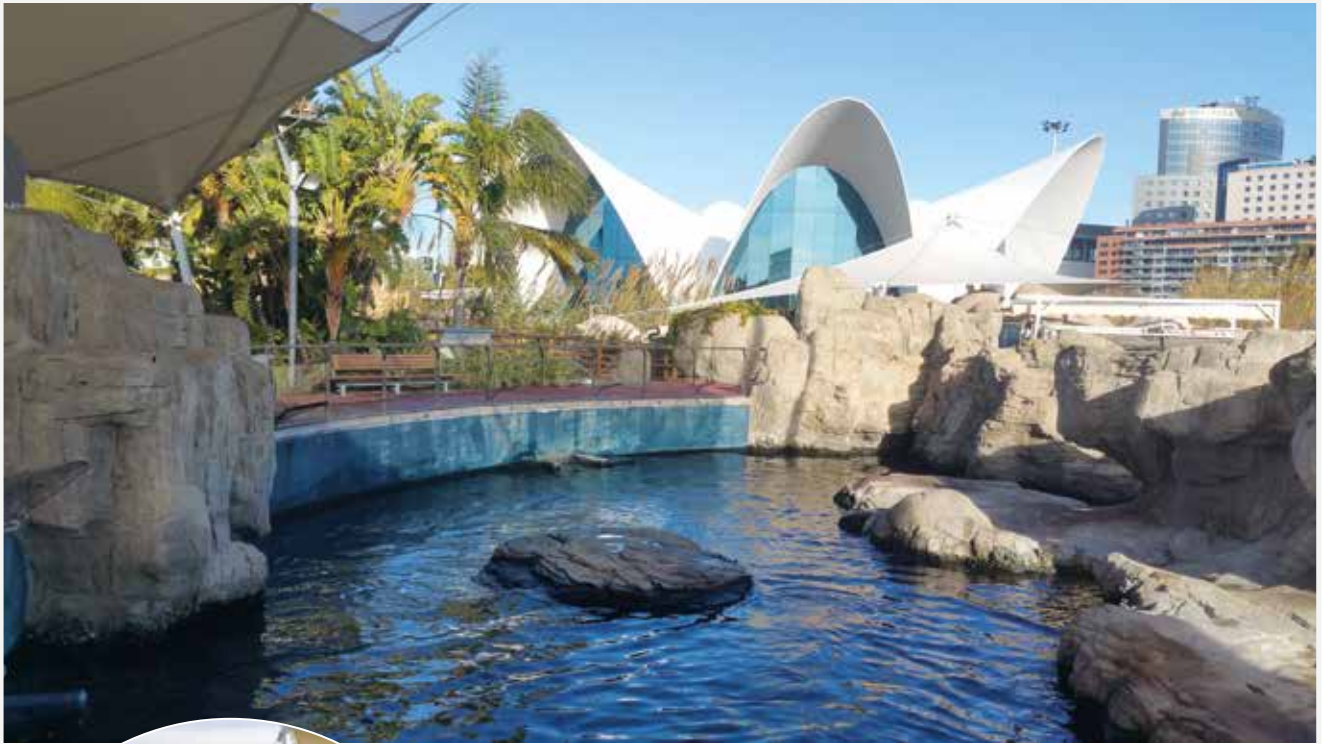


Other fields that the Group is particularly fond of include **CULTURE** and **SPORTS**.

In Spain, the Fontan building was completed as the last piece of the puzzle of the Galician City of Culture megaproject. The Luma project in France was also completed, relating to the rehabilitation and development of the former SNCF workshops converted into a vast cultural center: "le Parc des Ateliers".

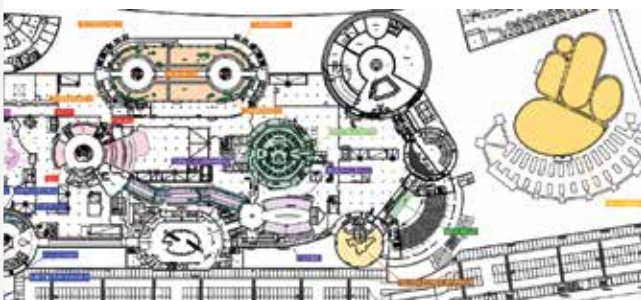
The theme of water is also of a very topical nature. In Valencia,

Spain, we are participating in the renovation of the Oceanogràfic basins, the largest aquarium in Europe, while in France, we are interested in the construction of an aquarium on the Bayssan estate, a project involving an innovative filtration solution which minimizes consumption while improving filtration quality. Also in France, in Avignon, we were approached for the renovation of several neighborhood swimming pools in favor of building efficiency, energy control and sustainable development.



In Valencia, Spain, the Oceanogràfic is undergoing renovations

This aquarium is the largest in Europe and makes the City of Arts and Sciences in Valencia an internationally renowned complex. Our role is to provide project management for the renovation of the various Oceanogràfic basins in which the main marine ecosystems of the planet are represented (Mediterranean, wetlands, temperate and tropical zones, oceans, Red Sea, dolphinarium, underwater restaurant...). The objective is to intervene on the site while it continues operating during the works.



While it is true that activity was less important in other fields, the **LOGISTICS** and **INDUSTRY** sectors have seen their fair amount of work. In France, the logistics project of the Monoprix Group deserves to be highlighted. It is the first logistics platform in the world to receive carbon neutral certification from the international Living Future Institute.

In Belgium, waffle producer Avieta has acquired a new factory equipped with automated storage systems and four production lines, expandable to eight in the future.

In Angola, TPF is participating in the restructuring and modernization project of the Luvo border post, including storage warehouses and staff accommodation.

In the French municipality of Moissy-Cramayel, the first logistics platform in the world to receive the carbon neutral certification from the International Living Future Institute was inaugurated this year.

The whole team is proud to have ensured the scheduling, management and coordination of this project representing no less than 100,000 m² of logistics area. The new logistics platform is now occupied by the Monoprix Group. It was completed this year to the great satisfaction of Prologis, leader in logistics real estate in France. This large-scale project is part of a process of innovation and sustainable development.



Regarding **DATA CENTERS** we can mention our participation in France in the design-construction consortium led by Spie Batignolles for the construction of the new Galileo Security Monitoring Center which monitors the European satellite navigation system.

In France, work is now underway for the construction of the new Galileo Security Monitoring Center, on the Loges military base in Saint-Germain-en-Laye



Since 2019, TPF has been working within the design and construction consortium led by Spie Batignolles for the construction of the new Center building which monitors the European satellite navigation system. The 4,500 m² R+1 building includes a tertiary area that can accommodate 80 people and a data center dedicated to securing the system 24 hours a day. The design takes into account two major constraints: on the one hand, security, with reinforced access control devices, video surveillance systems and complex fire safety systems, and on the other hand, the availability of facilities, with the implementation of several equipment chains and redundancy devices. The work began in July 2020 and continued in 2021. The building shell was completed this year, while interior fittings will continue in 2022, with delivery scheduled for the end of the year.

TPF supports regional and local authorities in the context of **URBAN PLANNING** projects aiming to develop mixed use of public space and to improve the living environment in a sustainable development approach. If there is one project to mention in this field, it is the Reims Grand Centre urban development project.

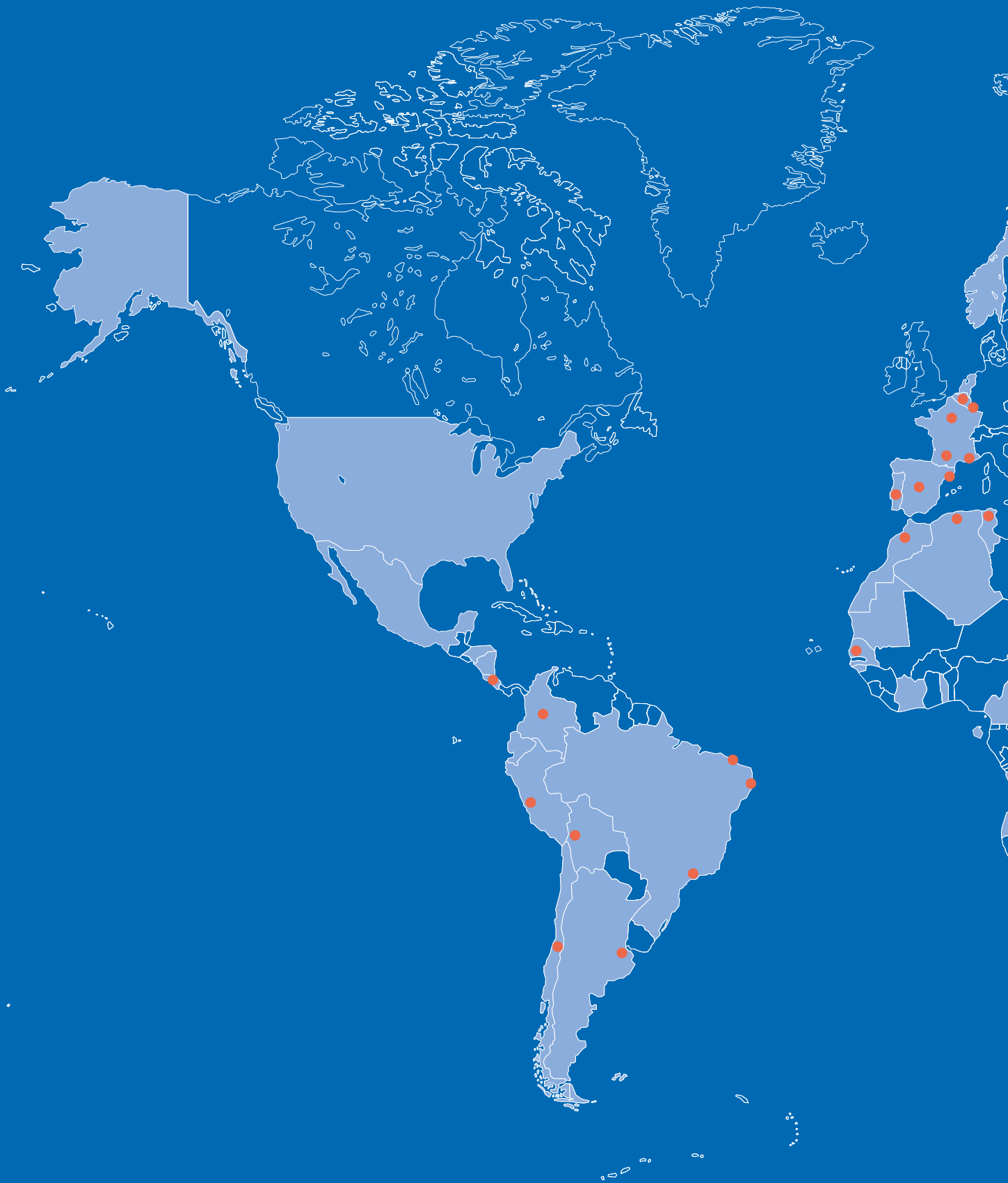
In France, TPF was appointed to provide urban project management and operational monitoring for the Reims Grand Center urban development project

This large-scale project is led by the City of Reims and the Urban Community of Greater Reims, and covers an area of nearly 240 hectares. It includes the Sernam-Boulinrin Mixed Development Zone (ZAC), the area around the Reims center TGV station and its surroundings (post building), the site of the 12th aviation squadron, the Arc Nord Est sector, the Voie des Sacres as well as boulevard Lundy. Among the key

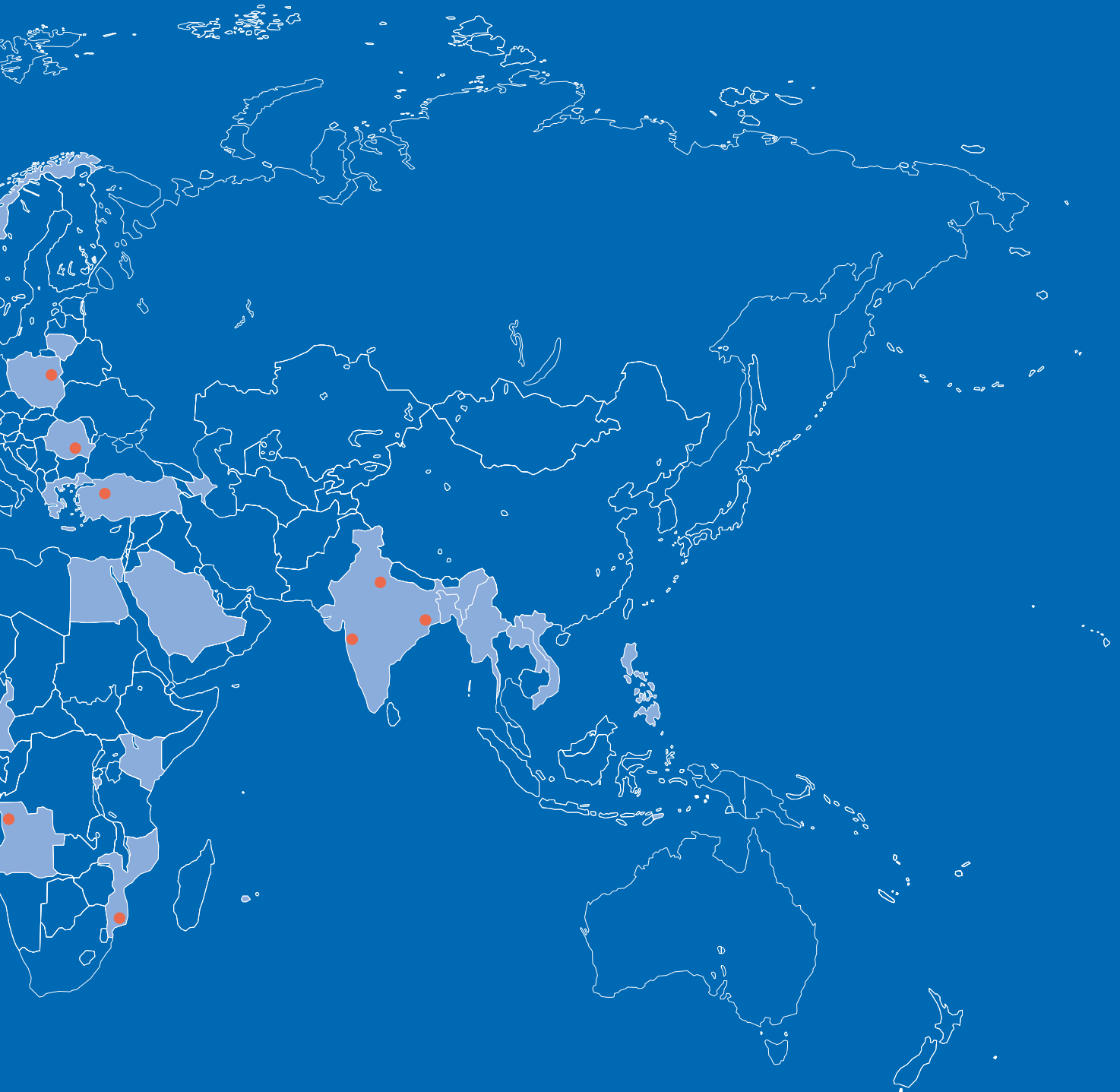
objectives of the programme: improving connections between the north and south of the city and simplifying pedestrian routes. The group led by architecture and urban planning agency Leclercq Associés is working on developing a new central complex, a large scale project organized around facilities such as the future water park complex, the event hall and Boulingrin halls.



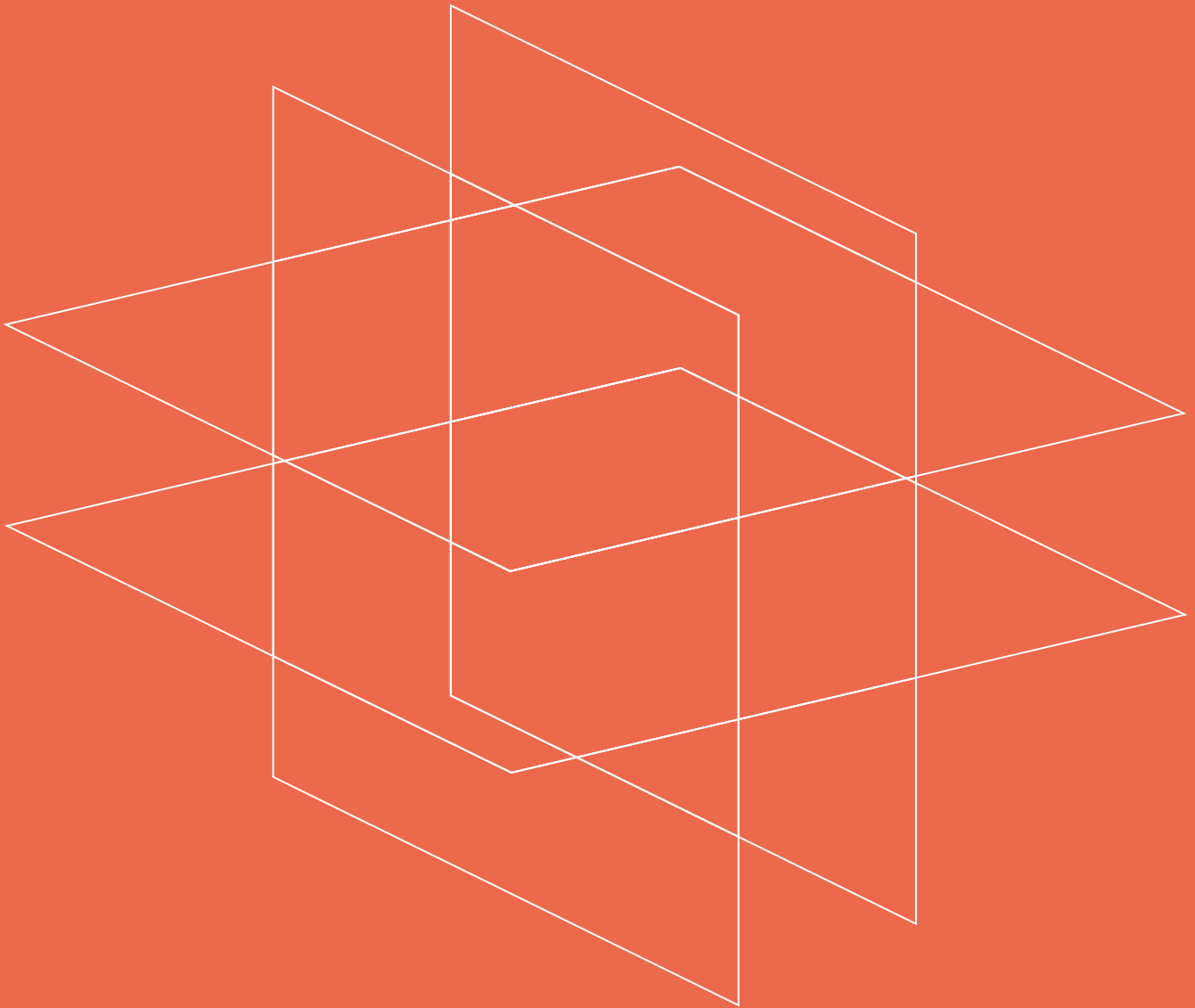
● Our countries of operation in 2021 ● Our Locations



TPF in the World



Building
the world,
better



2021 Activity

BY GEOGRAPHICAL AREA



Mons Railway Station / Belgium
Client: SNCB/INFRABEL/
Walloon Region-OTW/Municipality of Mons
Project Management : SNCB
Authors of the project, Station and Parking:
Santiago CALÁTRAVA
©Karel Duerfincx

An overview of our project highlights



↓
CASABLANCA
DISTRICT
Finance City
Morocco
@Bougamza El Yazid



Africa



Algeria

Angola

Cameroon

Ivory Coast

Kenya

Mauritania

Morocco

Mozambique

Senegal



Algeria

Extension E of the Algiers Metro is progressing well

This new 9.5 km section extends from the El Harrach-centre station to the Houari Boumediene international airport. It will feature 9 stations and 10 ventilation shafts. Work on the tunnel and stations is picking up pace: the shield tunnel boring machine has now almost reached the first 5.5 kilometers towards the airport area and the stations are nearing completion. After carrying out the execution studies, TPF is currently providing assistance and technical assistance to the company Cosider Travaux Publics. •

Angola

BIM has taken the front seat in two large-scale projects aimed at improving healthcare services in the municipalities of Cacuaco and Viana



↑
Viana Hospital
→

These new 3-storey hospitals will be spread over a surface of 25,000 m² and 27,000 m² respectively. They will each offer 320 beds. TPF is currently carrying out studies (architectural design and engineering) in partnership with architecture firm Miguel Saraiva e Associados. •



Angola

The future Pedro Maria Tonha "Pedalé" hospital complex should be delivered at the end of 2022

In Luena, the work is not yet complete for our team in charge of supervising the construction of the 4th hotel structure of the hospital complex. The building covers more than 11,590 m² and extends over 9 floors including 2 underground levels, and includes 78 double rooms and a presidential suite, a restaurant, a conference room, offices and a gymnasium. This new ultra-modern research and training infrastructure will make it possible to accommodate many health professions in the best conditions. •



/ Miguel Esteves

Director - Angola

" Being part of the team responsible for supervising the Pedro Maria Tonha "Pedalé" hospital complex is a very motivating experience, and also a privilege. This project is particularly rewarding on a personal and professional level. The daily commitment and involvement of all our teams have resulted in fulfilling exchanges and the creation of synergies. " /



Angola

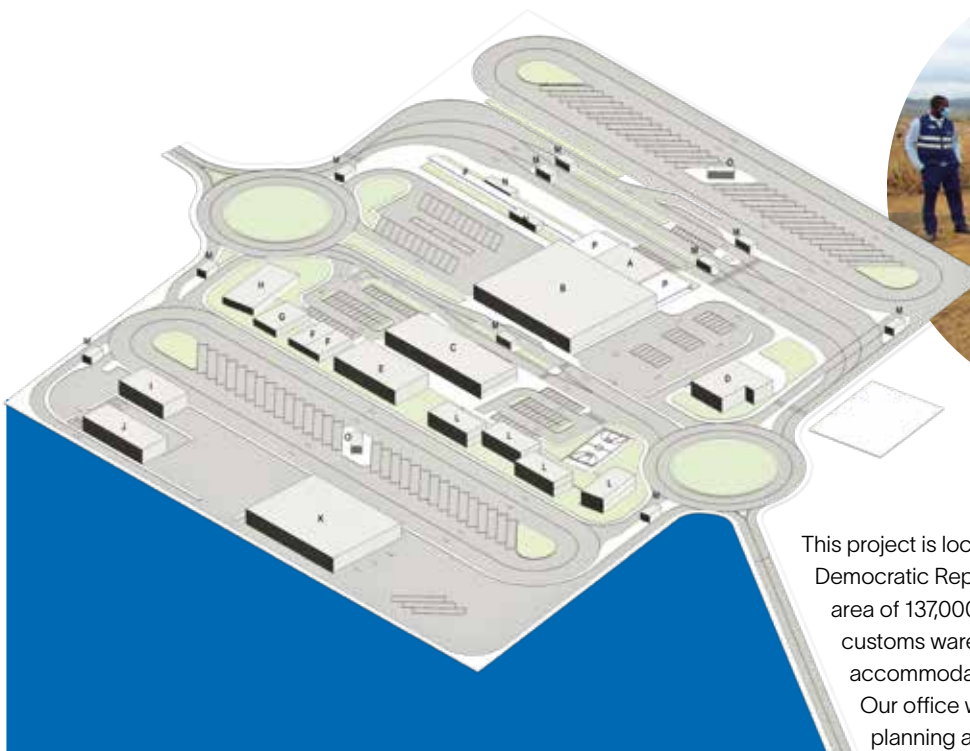
Extending the drinking water distribution network is an absolute necessity for Luena, the capital of the eastern province of Moxico



The work is financed by the International Bank for Reconstruction and Development (IBRD) and resulted in the laying of 150 km of pipes and the creation of 15,000 household connections. The challenge is significant because the peri-urban area covered by the project is disorganized and densely populated. Our contribution consists in monitoring and controlling the work. •

Angola

TPF has obtained a new study contract from the General Tax Administration (AGT) for the restructuring and modernization of the Luvo border post, in the province of Zaire



This project is located on the border with the Democratic Republic of Congo (DRC) and covers an area of 137,000 m². It concerns the construction of customs warehouses, residential buildings, staff accommodation and many other infrastructures. Our office was appointed to carry out the town planning and architecture studies. •

Cameroon

TPF takes part in the implementation of the Emergency Flood Control Project (PULCI) in the far south of the country



The implementation of PULCI made it possible to raise dykes of the Logone and Lake Maga over lengths of 70 km and 27 km respectively, and to install new equipment. TPF is particularly pleased to have contributed to this project. But that's not all. This program also includes the study and establishment of Water User Associations (WUA) in irrigated areas which are part of the Yagoua Rice Expansion and Modernization Company (SEMRY), the main beneficiary of the works. It also includes support for the operation and maintenance of the hydro-agricultural infrastructure. This year, our work was focused on these aspects. We were successful in setting up training courses for SEMRY agricultural extension officers and WUA managers. The goals of this program are ambitious: strengthening the capacity of farmers to increase their productivity, and improving water management and maintenance of the irrigation network. •

Ivory Coast

The primary objective of the Abidjan-Yamoussoukro highway will be to offer users maximum safety and comfort



The objective is double: improving the safety and comfort of users and people living near the motorway, and also offering a sufficient level of service justifying the tolls, and sensible operation respectful of the environment. TPF was entrusted with the development studies for the surroundings of this new 230 km long motorway. •

Kenya

TPF is exporting its expertise in hydroelectric engineering to Africa and particularly in Kenya



This operation has been a fantastic success for our teams. They completed not only the detailed preliminary design of the hydroelectric development on the Sagana River, but also the detailed preliminary design study and tender documents for the hydroelectric development of the Ndanu Falls on the Yala River. These developments should lead to the production of 45 MW and 10 MW respectively. •

Mauritania

Work is continuing as planned on the second phase of the Integrated Water Resources Management and Multiple Use Development Project in the Senegal River Basin (PGIRE 2)



The operation is divided into two lots and aims to clean and maintain 4.2 km of hydraulic axes on both banks of the Senegal River. The first lot concerns 2.9 km of hydraulic axes distributed between Djebendou and upstream RTH (lot 1) in Senegal, and the second, 1.3 km on the Meissoukh in Mauritania (lot 2). The aim is to reduce the vulnerability of the Senegal River basin to climate change, by combating invasive plants, restoring ecosystems and reducing the risk of flooding. The High

Commission of the Organization for the Development of the Senegal River (OMVS) contacted us as part of the work to be carried out on the Mauritanian side (lot 2). In addition to carrying out the detailed preliminary design studies (APD) and preparation of tender documents (DAO), our mission consists in controlling and supervising the cleaning and maintenance works of hydraulic axes. •

Morocco

The General Directorate of National Security (DGSN) will open new headquarters in Rabat



This is one of the flagship projects currently underway in the capital. This new modern and integrated administrative structure has been erected on a 20-hectare site, and will house the directorates and services of National Security, but not only. The building will also feature a conference center with a capacity of up to 1,200 people, a museum, archives center,

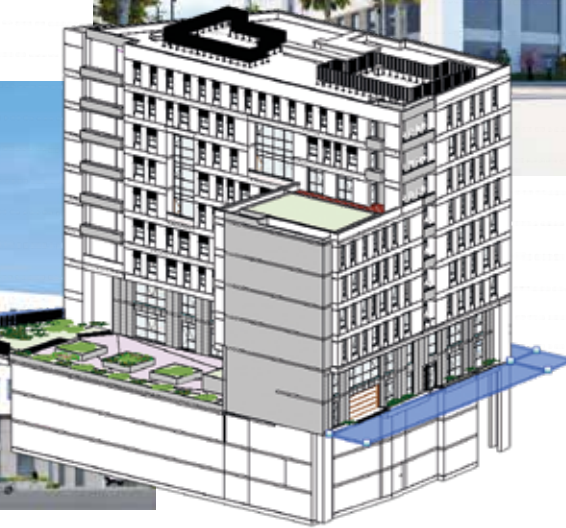
sports center, center for ID data registration and national cards printing, accommodation center for reserve forces, computer center and 1,500-space car park. The whole complex must meet the highest Moroccan architectural and security standards. TPF was entrusted with technical studies and All Trades work monitoring. •



Morocco

In Casablanca, near the old Anfa airport, a whole new district is taking shape

AEROCITY ANFA is a real estate project carried out in BIM mode, bringing together several functions: residential housing, offices and spaces dedicated to health, commerce or sport. TPF has been appointed by Compagnie Générale Immobilière (CGI) to carry out studies and monitor All Trades works for 36,000 m² of high-tech office space. •



Morocco

The TANJA WATERFRONT project is part of the reconversion program for the Tangier port area

TPF is acting as the design and engineering office in the creation of this new multifunctional living space. The first phase of the project we are working on includes the road service and development of the promenade along the south side of the Marina, two public squares, a green space park and two high-end residential buildings. •



Mozambique

The rehabilitation of rainwater drainage systems is one of the solutions to reduce flooding risk in cities

As such, TPF is supporting the AIAS (Administração de Infraestruturas de Água e Saneamento – Society for the management of urban wastewater and water supply in Mozambique) in the implementation of the project to rehabilitate the drainage system of the city of Beira. The second phase is currently underway. TPF is continuing the work for which we were hired, namely the feasibility study, design and work supervision. The realization of this project will help to meet climate challenges as well as those generated by urban growth. •



Mozambique

TPF is part of the consortium responsible for the feasibility study of the Mavuzi II hydroelectric project

This project is supported by the Mozambican electricity company Electricidade de Moçambique (EDM) and aims to increase electricity production from renewable energy sources by around 37 MW. The hydroelectric development is located on the Revue River in the central province of Manica. •



/ **Francisco Mestre**
Director - Mozambique

“ Mozambique is particularly exposed to climate change. We must therefore continually adapt to mitigate the risks associated with climate change. The TPF Group has proven this time and time again: we are able to face these new challenges. Many initiatives have already been implemented to fight against floods, especially in the cities of Maputo and Beria, where I had the opportunity to participate in several important projects.” /

Senegal

Lack of access to drinking water is a major sustainable development issue on which the Group is also working, particularly in the Saint-Louis region

The National Water Company of Senegal (SONES) has obtained funding from the European Investment Bank (EIB) to carry out work to strengthen the drinking water supply systems in the cities of Saint-Louis, Kaolack and Kolda .

This financing is intended for the construction of a water intake in Bango, and a new 12,000 m³/day water treatment plant in Saint-Louis (Khor) including the supply and installation of a main distribution pipe DN500 over 10.5 km and DN250 over 1.3 km (lot 1) and a water tower with a capacity of 3,200 m³ in Saint-Louis (Sanar) (lot 2). TPF was selected as a consultant for technical control and work supervision. •



/ Papa Fara Ndiaye

Civil Engineer, Project Manager – Senegal

“ I have several years of professional experience as a project manager. Today, this experience allows me to work on large-scale, complex technical projects which are of capital importance for populations, such as the reinforcement of drinking water supply systems in the city of Saint-Louis. The failure load test of foundation piles which we carried out is a technical process that had not been used for almost forty years. It has now been successfully carried out. ” /

Senegal

The restructuring works of Pikine Irrégulier Sud 2 (PIS 2) show a progress rate of more than 60%



This project is financed by the French Development Agency (AFD) and the State of Senegal and is a component of the Dakar-Diamniadio toll motorway project. The intervention zone of Pikine Irrégulier Sud covers an area of 700 hectares with a population of approximately 200,000 inhabitants.

Urban restructuring works to be carried out in the districts of Pikine Sud which are crossed by the motorway include three components:

- water protection with the construction of rainwater drainage infrastructure and the establishment of wastewater collection networks;
- construction of basic social community facilities (socio-educational center, commercial center) as well as local facilities,
- construction of a road network (primary and secondary roads).

It is therefore not only about improving the living environment of populations affected by the motorway project and reducing the vulnerability of Pikine Irrégulier Sud to flooding, but also about ensuring better mobility for goods and people. TPF is thrilled to have been selected by the Agency for the Execution of Public Interest Works (AGETIP) to ensure the monitoring of water protection works and construction of the road network. •





TPF Photo Contest
1st Place
TATIANA GUSMÃO DE
MENDONÇA PEREIRA
—
Ramal do Agreste
construction works
Brazil



America

Brazil

Chile

Colombia

Costa Rica

Brazil

Our group is working to make dams safer



In the State of Bahia, our Brazilian team is collaborating with the Atlantic Nickel company to adapt the Santa Rita tailings dam, located in the state of Bahia, to the National Dam Safety Policy, Brazilian legislation aimed at preventing emergencies in dams. The project consists in the elaboration of the Conformity and Operability Assessment (ACO) of the Emergency Action Plan for Dams (PAEBM).

One of the biggest challenges of the project is the involvement of the community in dam safety actions. Another relevant action is to attest the potentially floodable area and the associated potential damage (DPA) of the dam, in accordance with current legislation.

So far, we have already carried out the registration of the population in the Self-Rescue Zone Area (ZAS), the evaluation of the PAEBM and potentially floodable area, signaling the necessary revisions in the document. We also carried out internal training, as required by law. The external simulation with the local population is scheduled for the first half of 2022. •

Brazil

The TECNORED project requires the involuntary displacement of the population

Our Brazilian team is familiar with this issue and was therefore asked to develop Involuntary Removal Assistance Plan (PAR), to relocate the families that live in the Tecnored Project implementation area, guaranteeing the maintenance of their quality of life. Vale's mining project includes the installation of a biomass development and processing laboratory to produce 500,000 tons of pig iron, with low carbon emissions. •



Brazil

Women's empowerment is at the heart of the "Mangaraí" pilot project

This project launched by the Government of the State of Espírito and financed by the World Bank aims to improve the quality and quantity of the Mangaraí River water and the nearly 4,000 local inhabitants life quality, indirectly benefiting 600,000 people in Grande Vitória. We are currently working on this project, performing educational and socio-environmental development actions, with an emphasis on the women empowerment. •





Brazil

BRASKEM wants to involve local communities in the risk management process

The Brazilian petrochemical company asked us to set up the Community Relationship Program, integrating actions on safety, environment and sustainability, and maintaining a favorable dialogue with the communities affected by the company's operations in the states of Alagoas, Sergipe, and Bahia. •



Brazil

Impeccable knowledge of the road network is essential to identify the real needs in terms of investment, operation, management and maintenance

TPF joined forces with Norconsult to provide technical and operational support for the management of the Caminhos de Pernambuco Program, from the Department of Highways of the State of Pernambuco (DER/PE).

Through the georeferencing carried out by the consortium's field team, it was found that the state has about 13,010 km of road network, with 10,455 km of state highways and 2,555 km of highways under federal jurisdiction, in addition to 249 accesses, totaling 402 km, and 168 vicinals, representing 2,240 km.

In order to obtain a better management of processes and control of the resources available for the maintenance of this network, the consortium is working on the implementation and operation of an intelligence center, which will have the Single Management Platform - PLUG, a TPF solution that centralizes in a single system all the management information on the state's road network. •



Brazil

TPF is a major player in sanitation in Rio de Janeiro

For the concessionary company in charge of water and sanitation services for the city of Rio de Janeiro, we are currently preparing the basic projects for the improvement of the Sewage Treatment Plant of Barra da Tijuca (County sewage system). More than one million four hundred thousand people living in the western part of the city will benefit from this project.

The work will increase the treatment capacity to 3.5 m³/s initially, later evolving to 5.3 m³/s. The project encompasses the use of existing facilities and the optimization of the sizing of processes, aiming to minimize problems and point out solutions that promote the best functioning of the station with the incorporation of improvements. The priority is to execute the project in line with operational issues, environmental, technological and economic requirements. •



Brazil

TPF is working alongside the Water Resources Department of Ceará to support them in the construction of the Frecheirinha dam

Our mission is to develop the executive project and to carry out the feasibility studies. These include building a reservoir on the Caiçara River with a storage capacity of up to 85 million cubic meters of water. The stored water will be used for irrigation of agricultural land and water supply in the Coreaú River basin. •

Brazil

TPF has won a new contract for Record Engineering services for 24 tailings supply structures



The structures are located in the Saracá-Taquera National Forest, south of Porto Trombetas Industrial Complex. In addition, two dams, located in the port, in the State of Pará are also included in the scope. Multiple tasks have been entrusted to us: production of technical data reports, regular inspections and periodic safety contracts. •

Brazil

Our work on the construction of the new Blumenau penitentiary complex is a fine example of Public-Private Partnership

This new project consists of building, equipping and maintaining a model prison complex with 3,000 places. It is led by the State of Santa Catarina and is supported by BNDES, the Inter-American Development Bank, and the Special Secretariat of Investment from the Ministry of Economy. The duration of the concession was set at 35 years. Projected spending amounts to no less than 240 million Brazilian reais for the first two years. •



/ Andrezza Cantilino

Commercial and Bidding Manager – Brazil

“ I have spent ten years in the commercial department of TPF, which allowed me to participate actively in the company growth. The professional development of our entire team and the stimulating environment in which we work have contributed to the success of the company. TPF Engenharia has an important place in the course of my life and my history. I am proud of what we have already accomplished together, and I believe that we will still achieve great things in the years to come. ” /



Chile

At the beginning of 2021, TPF signed a major framework contract with Chilean company Metro SA relating to the reinforcement and modernization of safety in the Santiago metro



The operator of the Santiago metro asked us to represent it with contractors in order to ensure the proper execution of the works. The tasks we have to carry out include: quality control of civil engineering works, monitoring and control of the execution program, revision of extraordinary and/or additional works, revision of contractors' accounts, coordination of interfaces between civil engineering works and equipment, supervision of health, safety and environment on the site, and the drafting of reports. •



Chile

Detailed inspection of the bridges of the Chilean railway network: essential work to ensure our safety and guarantee structure condition and reliability

TPF relies on a team of technical experts to assess the rehabilitation and reinforcement works of twenty railway bridges, some of which have a metal structure. These old structures are all located in the south and center of the country. The ambition of the project is twofold: to improve the network's operating conditions and to increase the efficiency of this mode of transport. •



Chile

The national railway company EFE has decided to modernize radio communication systems used on its railway network and to gradually automate all level crossings

TPF is continuing its work in the field, and is responsible for the technical examination of radiocommunication systems as well as the control of level crossing automation work throughout the country. All of our teams are driven by the same objective: rail safety. •

Colombia

TPF participates in the works related to the "Pact for Colombia" launched for the commemoration of the bicentenary of independence

This development plan comprises seven projects including the widening of the Los Comuneros road, an integral part of the Zipaquirá – Barbosa – Bucaramanga road corridor; Giron – Piedecuesta. This project will contribute to the economic development of the central region which is oriented towards agricultural and dairy production. It will improve traffic fluidity and the mobility of people living in areas surrounding the project. Also included in the works is the construction of a second carriageway over approximately 27 km. The operation will make it possible to offer high levels of service by increasing road safety and boosting the marketing of local products. TPF was entrusted with work supervision (construction, maintenance) as well as social, sustainable and environmental management of the project. •



Colombia

In the field of transport, Colombia is facing many challenges to overcome, such as the reactivation of the Pacific rail network

This network extends over 498 kilometers between the port of Buenaventura on the Pacific and the freight station of La Felisa in Caldas. TPF was mandated to provide technical, administrative, legal, financial, accounting, environmental, social supervision and management of land acquisition under the Pacific concession contract. •



Colombia

TPF is overseeing airport concession for six airports in the Center-North Region

This concerns airports José María Córdova in Rionegro, Olaya Herrera in Medellín, El Caraño in Quibó, Los Garzones in Montería, Antonio Roldán in Carepa and Las Brujas in Corozal. Our mission more particularly covers the financial, administrative, technical, legal, operational, environmental and security aspects. Our work took place in difficult conditions, since activities of the aviation sector were affected by the Covid-19 pandemic, but we were able to adapt to this unprecedented situation. •



↑ Jose María Cordoba International Airport

↑ Olaya Herrera Airport in Medellín



/ **Ángela Gómez García**
Bid Coordinator - Colombia

"During these twelve years, I have been able to evolve on the personal and professional level. I became a mother, and I have faced numerous changes within the company. It was not always easy to manage, but at the same time, these changes allowed me to evolve and to develop my professional skills." /

Costa Rica

TPF ensures the proper operation of the Road No 27 concession



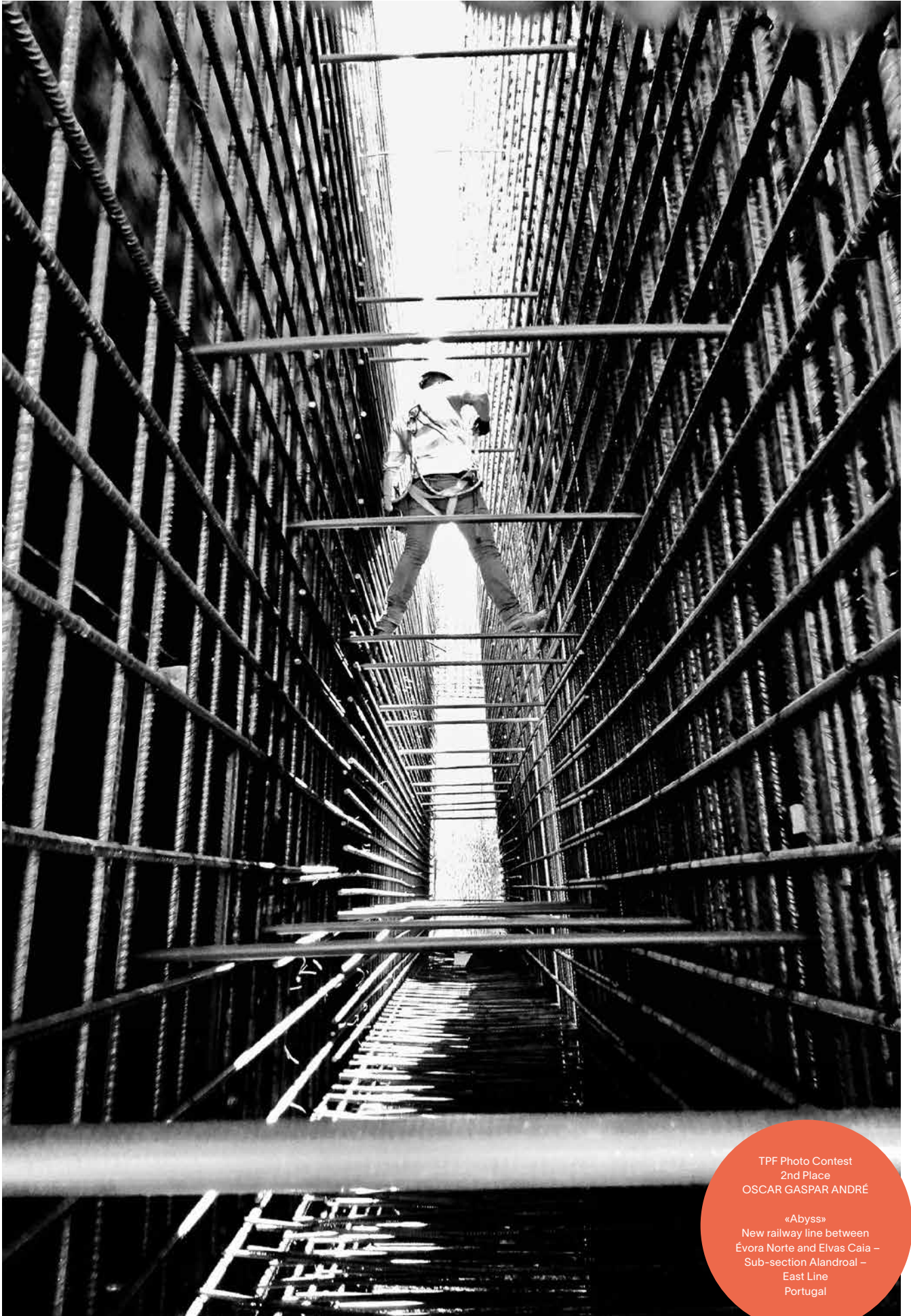
At the end of December, the National Council of Concessions (CNC) granted us an additional thirty months for the control and monitoring of the concession relating to the operation and maintenance of the 77 km national road between San Jose and Caldera. Our mission is to control that the concession holder meets its obligations and the technical, economic, administrative and environmental parameters set by the agreement. •



Costa Rica

The construction of the San José North Ring Road is progressing well

This 5.4 km long axial motorway is dotted with fifteen engineering structures and four interchanges (including two 3-level interchanges). The supervision work which has been entrusted to us by the Estrella-Solís consortium continues. This is a particularly complex project, since it involves the complete closure of the capital's only ring road. •



TPF Photo Contest
2nd Place
OSCAR GASPAR ANDRÉ

«Abyss»
New railway line between
Évora Norte and Elvas Caia –
Sub-section Alandroal –
East Line
Portugal

↓
New Mandovi
Cable-Stayed Bridge
(Atal Setu) in Panjim,
Goa / India
@Utpal Chakravarty



Asia

Azerbaijan

India

Philippines

Timor-Leste





Azerbaijan

In Caucasus, the modernization of the 502 km Baku-Boyuk-Kesik section of the Kars-Baku Eurasian Rail Transport Corridor is also progressing well



The project consists in the 25 KV 50 HZ electrification of 502 km of lines, initially supplied with direct current (3.3 kV) between Baku, on the edge of the Caspian Sea and Boyuk-Kesik, on the Georgian border. In addition to the installation of a new electrification system (conversion from direct current to alternating current), it also concerns replacing and modernizing signalling systems (ATP - automatic train protection, electronic interlocking, centralized traffic control in a second phase) and to supply new electric locomotives for the transport of goods (40 AC) and passengers (10 AC/DC). Work continues for our teams in charge of technical inspection of works and project management. •

India

The Bhabha Atomic Research Center (BARCF) plans to build a new Near Surface Disposal Facility (NSDF) II

This project will be implemented at the existing Integrated Nuclear Recycle Plant (INRP) in Kalpakkam (Tamil Nadu), on the site of the Central Waste Management Facility (CWMF). Our Indian team carried out a Detailed Geotechnical Investigation Study for designing the foundation structure, which includes: sinking of 58 boreholes, carrying out 86 Single Packer Field Permeability Tests and 58 Double Packer Field Permeability Tests, 37 Pressure Meter Tests (PMT) and 2 Cross Borehole Tests, drilling of 5 Trial Pits. •



/ Sudip Nath

Head of Department, Geotechnical services - India

“ This is a project of national importance as well as critical from environmental point of view. The study is made to restrict the seepage of the effluent materials released during processing of Radio Active Materials. Thus detailed study is made to assess the subsoil formation for the construction of the proposed plant as well as to study the seepage behaviour of the underlying subsoil formation.” /

India

TPF lends its geotechnical expertise to the National Thermal Power Corporation (NTPC Limited)

The company appointed us to carry out geotechnical studies on the ash dykes of Malancha and Kendua, in Farakka, in the State of West Bengal. This included drilling work (61 boreholes) and installation of piezometers. It is essential that the dykes remain in good condition to guarantee safety and a high level of environment protection. Their condition was studied on the basis of field and laboratory test results. •

India

The Meghalaya Integrated Transport Project (MITP) is a World Bank-funded project focused on modernizing transport sector management in Meghalaya State

The ambition of the project is also to improve connectivity and transport efficiency in districts where the project is located. Within this framework, we were asked by the Public Works Department - Roads Division (Government of Meghalaya) to carry out the Environmental and Social Impact Assessment (ESIA) on approximately 300 km of urban and non-urban roads (including minor and major bridges) and to develop environmental and social management tools. •

India

Aluminum producer Bharat Aluminum Company Limited (BALCO) wants to expand its plant in Korba, Chattisgarh

Our Indian subsidiary carried out geotechnical investigations for designing the project's substructures, including the sinking of 620 boreholes at different structural locations: Pot Line, Cast House, Silo, Fume Treatment Plant (FTP), Switch Yard, Air Slide & Belt Conveyor Area, ... •





India

The Ghatkopar Mankhurd Link Flyover project in Mumbai was inaugurated by Hon'ble Chief Minister of Maharashtra Shri Uddhav Thackeray

TPF was appointed as the consultant by the Municipal Corporation of Greater Mumbai to provide Detailed Design, Pre-Tender & Post-Tender services. The total length of the flyover is 2.991 km with width of 24.2 m having a 3+3 lane carriageway. The flyover was constructed with segmental construction technique on single pier support to ensure maximum utilization of space for vehicular traffic and pedestrian movement under the flyover. This bridge alleviates traffic congestion particularly at Baiganwadi Junction in Shivaji Nagar by connecting it to the route leading to Vashi. •

India

The National Highways Authority of India (NHAI) is looking to expand the highway network in the state of Maharashtra

National Highways Authority of India has taken up six-laning of Pimpalgaon-Nashik-Gonde section of NH-3 on EPC basis to be constructed from km 380+000 (Pimpalgaon Baswant) to km 440+000 (Gonde) for a design length of 60 km. Our Spanish and Indian subsidiaries were appointed as the Authority's Engineer for providing consultancy services for this project. The proposed development includes construction of structures & service road and the total length of this work is 7.57 km consisting of 1 segmental elevated flyover with 2 ramps, 3 major flyovers, 1 minor bridge, 1 VUP, 1 pipe culvert, 1 box widening, service road, and RCC drain. •



India

In the Maharashtra region, the company Nascence Consultants Pvt and the TPF Group, via its Spanish and Indian subsidiaries, have joined forces in two road development projects



Nanded-Osman Nagar-Halda-Mukhed-Wazar stretch

The first project, launched by the Ministry of Road Transport and Highways (MoRTH) was successfully completed in spring 2021. The rehabilitation and up-gradation of the Chalisingaon-Nandgaon section of NH-753J significantly improved connectivity and traffic issues on the Jalgaon-Bhadgaon-Chalisingaon-Nandgaon-Manmad road.

The second project, launched by the Department of Public Works of the Government of Maharashtra, concerns the up-gradation of 2 lanes with paved shoulder configuration of Nanded-Osman Nagar-Halda-Mukhed-Wazar stretch. The first section of about 41 km long has been completed since last year, while the second section of 53 km is still ongoing. •



/ **Manish Kotpalliwar**

Associate Vice President
India

“ TPF is a company focusing on a “progressive professional culture” and its objective is to be the best in consulting and engineering. I appreciate the importance given to employee development, as well as the mentoring program implemented within the company. I feel that my work is always valued, same as my opinions, ideas and suggestions. ” /



India

The Group supported the modernization of 85 km of roads in the state of Maharashtra, a project based on the hybrid annuity model (HAM)

TPF, via its Indian subsidiary and its Spanish subsidiary, was appointed as Independent Engineer for the improvement of Khambala-Telonda-Kasa-Talwada-Vikramgad-Pali stretch (37.00 km) & Wada-Devgaon road In Talwada & Mokhada (48 km). The project was completed to the great satisfaction of the Public Works Department of the Government of Maharashtra. •

India



Over the years, TPF has developed state-of-the-art knowledge and skills, enabling us to assess the state of the road network in an innovative way

In 2021, our road condition assessment vehicles travelled over 3,000 kilometres. In order to carry out a reliable diagnosis, high-performance auscultation and monitoring tools were used : Network Survey Vehicle, MBIU, LiDAR, Drone, Falling Weight Deflectometer, Retro Reflectometer and material investigation. •



/ **Col. Harshad Chati**

Associate Vice President
India

“ Working with the “Team” drone software allowed me to extend my knowledge and open up to new horizons. The advent of drone-based technologies for real-time data acquisition and asset condition monitoring has revolutionized the field of engineering. TPF intends to continue on this path and improve even further. ” /

Philippines

One thing is clear: the Manila Ninoy Aquino International Airport (NAIA) is undersized in the face of air traffic growth

Among options considered, there are plans to expand the airport in order to increase its capacity to 65 million passengers per year and 52 air traffic movements per hour. This would make it the country's first international gateway. The project had to be suspended following the Covid-19 pandemic but has not been abandoned. TPF will be present as soon as negotiations resume to provide advice as the Project Owner's Representative. •



Timor-Leste

TPF brings its technical expertise to the construction of a new cable-stayed bridge over the Becusse River, in Dili

The study contract was awarded to us by the Ministry of Public Works of Timor-Leste, through the National Directorate of Roads, Bridges and Flood Control. It concerns the construction of a new cable-stayed bridge aiming to replace the existing bridge. The geometry of the new structure will ensure the free flow of water and reduce the risk of flooding in this region regularly affected by natural disasters. •





TPF Photo Contest
3rd place
JULIEN PONCET

—
«Seuil 04L»
Nice Airport
Northern runway renovation
France



Europe

Belgium

France

Grand Duchy of Luxembourg

Poland

Portugal

Romania

Spain



@Karel Duerinckx

Belgium

AVIETA acquires a new 15,000 m² waffle production unit at its Liège operating site

The project involves the construction of a new factory equipped with automated storage systems and four production lines, expandable to eight lines in the future. TPF was tasked with the complete mission for architecture and technical building services studies (with the exception of production equipment) as well as control of civil engineering works, management and coordination of execution. The project is being finalized and will enter the acceptance phase very soon. •



/ Marie-Antoinette Dorange

*Draughtswoman
Building Division - Belgium*

“ Drawing is my job, and I've seen it evolve a lot in the 30 years I've been with the company. I have moved from the drawing board to a CAD system, and from simply copying engineers' drawings to making all the plans for a factory starting from sketches.

It also involves taking information for the cadastral plans, surveyor plans and others. On the AVIETA project, I drew all the architectural plans following the project manager's instructions. This comprises the pre-study phase, the planning permission, and the execution drawings. And that is a lot of drawings.” /



@Karel Duerinckx

Belgium

In Namur, the Confluence car park has opened its doors more than four years after project launch

There is a total of 670 parking spaces, including 132 reserved for the Walloon Parliament. The car park is spread over four basement levels, three of which are below water level. The new car park has free spaces for bicycles and motorbikes, large spaces for people with reduced mobility as well as electric charging stations. It is intended to be accessible to all and respectful of the environment. TPF worked on this project as a design office for technical building services and structural engineering. It was a close collaboration with companies Interparking, De Graeve-Duchêne, Valens, Archi 2000 and Aries Consultant. •



@Karel Duerninckx

@Karel Duerninckx

Belgium

A new childcare center was recently inaugurated in Schaerbeek

The ambition of the project is twofold: on the one hand, to transform a building intended for a municipal childcare center (MCAE) and three dwellings and on the other hand, to demolish a warehouse inside the block to build a crèche complying with ONE standards (Birth and Childhood Office) that can accommodate 60 children. The project uses an approach that meets Low Energy criteria. We carried out studies for technical building services, in partnership with architectural firm LOW Architecten. •



@Lucid LOW

Belgium

On the Walloon motorways, the Luwa project was completed ahead of schedule. This exceptional achievement was the result of a collective effort, and the implementation of considerable resources

This vast project aims to modernize the public lighting of SOFICO's structuring network. It began in 2018 and was completed at the end of February 2022. The old sodium lamps on the motorways and main roads of Wallonia have been replaced by smart energy efficient LED lamps. Lighting can now be adjusted based on traffic density thanks to the implementation of adaptive lighting in real time (called "dimming"). This is the result of long-term work for our teams responsible for carrying out lighting studies and taking measurements in the field (poles, lights, cables).



/ **Thierry Dercq**
Operational Manager – Belgium

“ LUWA Plan Lumières 4.0 is the project that each of us hopes to have once in our career. I had the chance to work on this vast project with my colleagues. Without their involvement, this project would not have been possible. I am happy to have made a contribution to ecological values, to improving road safety and reducing the impact of roads on environment. These are principles that the Group upholds. Humanly and technically, it was a real source of enrichment. I would like to dedicate this testimony to the memory of our friend Loic Struykers who lost his life while working on the site.” /



Belgium

TPF ensures the technical maintenance of the Belgian Defense infrastructures, in particular the air force barracks

In addition to maintenance work, we also support the Defense department in the renewal of its technical installations. We can mention that services for the Defense department are part of a ten-year contract. This is an achievement that deserves to be highlighted. The execution of this contract gives us the opportunity to demonstrate that TPF has the ability to provide added value at all stages of a project, from design to commissioning, maintenance and operation of the facilities. This year was also marked by the renewal of several contracts, in particular for the maintenance of the facilities at Liège airport and the Brussels Courthouse.



France

The City of Avignon will renovate several neighbourhood swimming pools

↑
Pierre Reyne
swimming pool

Within the consortium led by GIRARD, TPF won the global public performance contract for the renovation and operation of five municipal swimming pools.

It involves upgrading aquatic equipment while improving user comfort: better quality of use (accessibility for people with disabilities) and air quality, maintaining a high water quality, improved hygrothermal comfort.

The project also plans to improve the energy efficiency of the building, and control energy consumption and sustainable development: reduction of water consumption (discharge of waste water, rainwater, drain water, runoff water) and energy consumption (bioclimatic design, building sealing, exterior insulation, renewable and recovered energies, Technical Building Management, etc.), as well as reduction in the consumption of water treatment products. •

France

The project for the new Reims Higher School of Art and Design (ESAD) should be completed in 2025

TPF won the competition for the construction of the ESAD alongside Jean-Pierre Lott Architecte. Located in the heart of the Port Colbert industrial wasteland, the project is part of a vast program of renovation and transformation of the urban space carried out by the City of Reims and the Urban Community of Greater Reims. The school is designed to interact with its environment. It fully meets the challenges of this new district and is a true showcase of architectural and environmental innovation. The future emblematic building is designed in concrete, echoing the neighbouring buildings of Magasins Généraux. The project features a lot of green spaces, which characterizes it as an island of freshness. Work should begin in October 2023 and end in the fall of 2025, in order to accommodate the 285 students. Our team is in charge of all engineering missions within the project management group •



France

In Tours, construction work will soon begin on the New Trousseau Hospital

The studies will be completed very soon, with work starting in 2022. Since the beginning of 2019, TPF has been working on the design of the New Trousseau Hospital (80,000 m²) for the Tours University Hospital alongside AIA Life Designers. The Covid-19 pandemic has impacted studies. We had to meet new challenges for isolating the flows of contaminated patients from those of other patients and staff, so that health services could continue to operate independently of the pandemic management. This mainly resulted in the implementation of new functional circuits and technical provisions aimed at better controlling the risk of airborne germs, by acting on the pressurization/depressurization of airlocks. These provisions mainly concern the resuscitation and critical care sectors, but also extend to patient reception. •



/ Sébastien Copitet
Project Manager – France

"Since 2016, I have been managing various operations as a Project Manager, in particular in the hospital sector. The construction of the New Trousseau Hospital in Tours represents a real challenge considering the scale of the project (more than 80,000 m²). It means we had to adapt the design studies to meet the challenges of the COVID-19 pandemic." /

France

In Lille, the Guérin building on the campus of Institut Pasteur will be totally revamped

TPF is in charge of engineering for technical lots, and supports the internationally renowned biomedical research center in carrying out the renovation and extension work on the Camille Guérin building. This 6,200 m² building accommodates the research teams and houses the health and longevity center. It includes offices and laboratories classified L1 and L2. The extension will house the technical equipment intended for the treatment of the premises. •

France

In Toulouse, TPF is working on the Evotec campus

The pharmaceutical R&D company entrusted us with a project management mission for the redevelopment of the 3 levels of building B09. The objective is to bring together chemistry and bioanalysis activities by 2025: chemistry laboratories in G+1, DMPK (Drug Metabolism and Pharmacokinetics) laboratories on the ground floor, offices, meeting rooms and Design Rooms in the basement. •



France

TPF won the global performance contract for the Trotabas Campus of the Côte d'Azur University

The renovation work on the university campus aims to improve the energy efficiency of buildings and facilities: implementation of insulation and high-performance technical equipment. This project is part of the Plan France Relance, which promotes the architectural quality of buildings and green outdoor spaces. •



© Urban Dumas - VINCI Construction France - Ameller Dubois

France

In Mulhouse, the renovation of the Cité administrative of Mulhouse is part of the Government's Investment Plan for energy transition

This vast program finances work that will reduce the energy consumption of its real estate assets. The project concerns the renovation and extension of the Cité administrative of Mulhouse, which is a complex of eight buildings. As part of a partnership, TPF provides engineering services (roads and networks, structure, electricity, fire safety system coordination) on behalf of the Haut-Rhin department administration. •

France

The Department of Hérault has launched the construction of an aquarium on the Bayssan estate

The consortium Cardinal Edifice – NGE / ILR Architecture / TPF won the design-build contract for this remarkable 3,300 m² project. This large-scale project gives an essential place to landscape architecture and scenography. As for water treatment, preference was given to an innovative filtration solution minimizing consumption while improving filtration quality. •



©ILR Architecture

France

In Drancy, a new cultural space is expected to open in 2024, in the Baillet district

Our role is to support the Trace Architectes agency in the design of this new cultural center of nearly 5,000 m². The new complex will feature three cinemas rooms, a performance hall and a versatile, modular event room with telescopic bleachers. Once completed, it will be able to simultaneously accommodate 2,000 spectators. •



© Trace Architectes



@Fabien Brocard



/ Mary Bonnet

*Construction Engineer
France*

“ When taking part to site monitoring for interior fittings of the tower designed by architect Frank Gehry as part of the Luma Arles project, I had to adapt my working methods. This operation was exceptional in terms of its scale, atypical materials (salt, seaweed, etc.), the integration of artistic works as well as completion deadlines. ” /

France

In Arles, TPF attended the inauguration of the prestigious LUMA project in June

We provided project management for the LUMA project. It is also the result of long-term work carried out in collaboration with renowned architects Frank Gehry, Selldorf Architects and Bas Smets. This involves the rehabilitation and development of the site of the former SNCF workshops, which is converted into a vast cultural project “Le Parc des Ateliers”. The operation also includes the interior design of the 56-metre aluminum-clad Tower, the creation of the landscaped park and construction of the Minimes car park. •



/ Fabien Brocard

*Director of Infrastructure Affairs
France*

“ In 2021, after 28 months of work, we delivered the landscaped gardens of Parc des Ateliers of the Luma Foundation in Arles, for which TPF provided complete project management. One of the main challenges of this operation was the creation of an artificial lake operating based on natural purification. The project was designed by Bas Smets and won the Landscapes and Humanism prize. ” /

France

The Group expands its activity in France in the field of water

Our project management team is supporting the Métropole Toulon Provence Méditerranée for the implementation of a 4 km underwater pipeline named Sealine. It will supply the island of Porquerolles with drinking water. The proposed technical solutions take into account environmental and landscape imperatives specific to the Port-Cros National Park. •

France

With the ambition to improve the energy efficiency of buildings, TPF relies on a team of highly experienced and specialized maintenance technicians

TPF won two major contracts in the Pas de Calais department with the towns of Fouquières-les-Lens and Beuvry near Béthune. They cover the energy maintenance of their various public buildings. In addition to ensuring the optimal operation of existing technical installations, the goal is also to offer improvements and concrete solutions in order to reduce carbon emissions and save energy. •

Grand Duchy of Luxembourg

The River Place project is a prime example of new housing trends

In Dommeldange, this new residential complex of 8,000 m² is combining high-end classic housing and coliving and will be completed by 2023. In total, it includes four residential buildings and a base area bringing together services, shops and licensed professionals in a bucolic and urban setting. Designed by architecture firm Art & Build, River Place aims to emphasize sustainable development, green areas and community spaces. TPF was appointed to carry out structural studies and technical building services. •



Poland

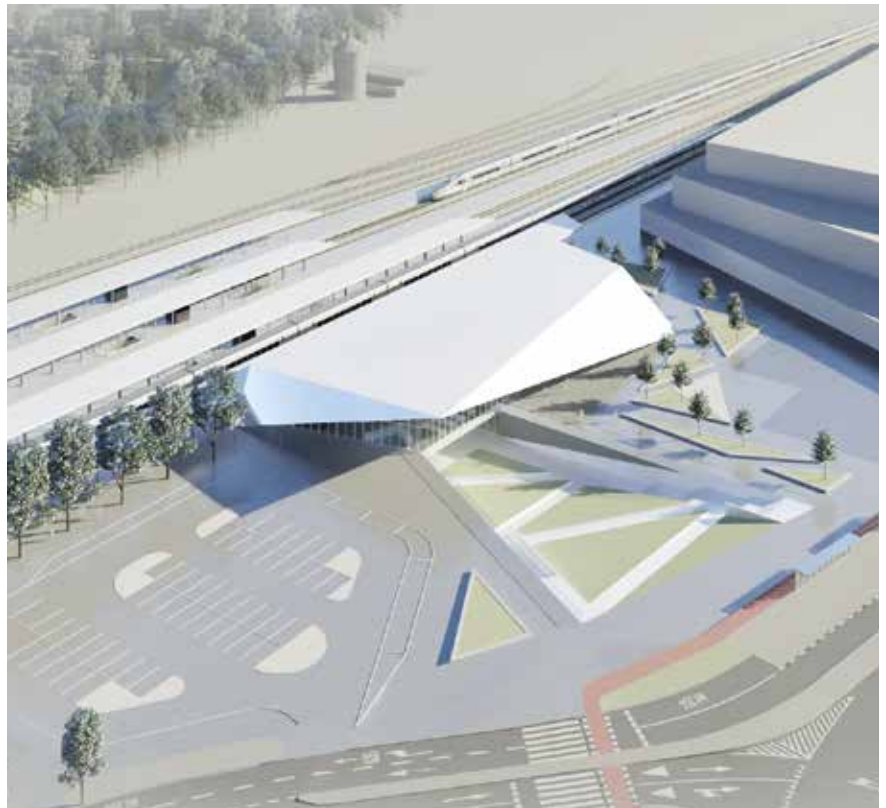
Polish railway operator PKP (Polskie Linie Kolejowe) is looking to modernize all of the country's railway infrastructure.

This ambitious program plans for the construction and modernization of several hundred stations, including Olsztyn Główny, Włocławek and Wrzeszcz, which are of particular interest to us.

Poland

Olsztyn Główny railway station

TPF prepared the design together with the author's supervision for the "Construction of the Olsztyn Główny railway station with modernisation of the track-deck system and the railway infrastructure". The project involves the reconstruction of the railway station together with the demolition and construction of the new building of the railway station. The scope of service includes development of a programming and spatial concept, construction design, obtaining a location decision, obtaining a construction permit, development of a detailed design and providing author's supervision during the execution of construction works. The design was conducted in partnership with Torprojekt Sp. z o.o. and DWAA Architekci – the design companies from Warsaw. Work is currently underway. •





Poland

Włocławek railway station

This other project carried out in close cooperation with the city of Włocławek concerns the construction of a new station in place of the demolished building, dating from the 1970s. The ultra-modern architectural design of the new station should be a source of inspiration and serve as a model for designers of buildings and transport infrastructure. Particular attention was given to the comfort and safety of passengers as well as to the optimization of energy and operating costs. TPF developed a conceptual design, structural design, detailed multi-branch design and obtained a building permit for the new railway station. The design was conducted in partnership with An Archi Group – the design office from Gliwice. •



Poland

Wrzeszcz railway station

In partnership with architecture firm TBiA, TPF looked into the design of the reconstruction project for the Wrzeszcz station, with a complete refurbishment of the immediate surroundings of the building: a reconstruction which will not be identical, but aims to preserve the cultural heritage and to meet contemporary expectations and functional standards, while improving the comfort and safety of passengers. •



Poland

This year, TPF won a new contract for the design of the extension of the Poznan provincial hospital

In addition to the renovation and partial reconstruction of the existing building, which was built in the 1970s, the hospital will enlarge its emergency department and acquire a new wing (building F) spread on 6 levels, including 1 basement level, intended for specialist day care clinics (outpatient clinics). The project also includes new landscaping around the hospital, outdoor car parks and the creation of an access ramp for ambulances. Construction is expected to start in 2023. •



/ Dariusz Leszczyński

Director of Architecture Department - Poland

“ Working on the Voivodship Hospital extension in Poznan was not an easy task. This project demanded to design complex medical technology and simultaneously obtain all legal decisions in extraordinarily limited time. Half of the architects team worked on the actual design and the rest made every effort to force public institutions and government officials to shorten the legal deadlines to an unusual degree. ” /

Poland

A new future is on the horizon for railway line No. 182 Tarnowskie Góry in Zawiercie

The project notably provides for the revamping and reconstruction of 30 km of existing tracks that were no longer in use. We are managing and supervising the works for Polish railway operator PKP with the aim to restore traffic while providing safe and reliable connections between the urban agglomerations of Upper Silesia and Pyrzowice Airport. Our aim is to contribute to the development of a mode of transport that respects the environment. •



Poland

In Powidz, the railway extension with railhead aims to primarily serve the 33rd Transport Aircraft Base



This is a major step in the development of the logistics activities of this base. The project involved the design and construction of a siding track system along with a set of loading ramps, a storage shed and a concrete marshalling yard allowing for efficient train unloading. TPF carried out detailed studies in collaboration with Eiffage Infrastructures under a design-build contract awarded by the US Army Corps of Engineers. •



Poland

A completely different landscape is emerging with the construction of the Via Carpatia transport corridor

This international road axis will connect Baltic countries to the countries of southern Europe and Asia. In the month of December 2021, the two sections of the S19 Kraśnik-Janów Lubelski expressway and the S19 Janów Lubelski bypass, implemented by TPF, were made available for use. Our teams successfully completed their mission and were in charge of studies and works supervision. •



Poland

The General Directorate of National Roads and Motorways (GGDKiA) is planning a new route for national road DK8

The objective of the project is twofold: improving road safety and relieving the center of the municipalities of Suchowola, Sztabin and Bialobrzegi by reducing transit traffic. TPF performed the stage of Programme Concept for the "Construction of the national road No. 8 on the section of Korycin - Suchowola with the ring road of Suchowola, with a length of approx. 15.30 km". •



Poland

TPF wins a first engineering contract with the public water authority Wody Polskie

The plan is to carry out major works on the Oder, a river marking the border with Germany, in order to create a river navigation axis and allow the passage of class 3 boats. The project involves the modernisation of sluices on the Krapkowice barrage, sluice gate at the Januszkowice barrage and Kępa-Groszowice-Dobrzeń weirs. The challenge is to improve transport by inland waterways and to promote low-emission modes of transport that respect the environment. •

Portugal

Flood prevention and control are always at the heart of the debates

Today, the use of integrated solutions to manage stormwater is essential. Within this framework, the Lisbon City Hall has launched a structuring project aimed at the construction of underground drainage tunnels. This aims to reduce the risk of flooding in the most vulnerable areas of the city. Work began this year and our team is tasked with work monitoring and control. •



Portugal

Establishing an intermodal network around the capital will make it possible to meet sustainable development challenges

The two light metro lines (LIOS Occidental and LIOS Oriental) forming the LIOS network (Linha Intermodal Sustentável) should extend over 24.4 km. They will ensure rapid and structural connections between the neighbouring areas of the cities of Lisbon, Oeiras and Loures and the main transport hubs of Lisbon. TPF was entrusted with the environmental impact studies.



Portugal

In the district of Porto, TPF is taking part to the rehabilitation of the A1 motorway between the Stº Ovídio road junction and the North abutment of the Arrábida bridge

Important operations will be carried out: rehabilitation of the roadway, renovation of signalling and lighting equipment, specific works on the Arrábida Bridge and widening to 2x3 lanes. TPF contributed to this project by carrying out the execution studies.



Romania

The Romanian National Society for Road Infrastructure Management (CNAIR) plans to build a new express highway to ensure better connectivity between Târgoviște and the main transport network

This project is funded by external grants and is part of the Trans-European Transport Network (TEN-T). It will bring significant improvements in terms of economic development and time saving, by connecting the A0 Bucharest Ring Road with Găești -Târgoviște -Ploiești Express Road, ensuring the

connectivity of the city of Târgoviște to the main transport network. Among the tasks entrusted to us, we can mention the prefeasibility study, multicriteria analysis of the route, field studies and specific studies, feasibility study and specialized technical verification. •

Romania

Our specialists in marine engineering and dredging were appointed by the Maritime Administration department of the Constanta port



The National Company "Maritime Ports Administration" S.A. Constanta (MPA SA Constanta) appointed our Romanian subsidiary to carry out the feasibility study dedicated to the objective "Dredging investments in seaports, including cost-benefit analysis and funding application". The project is currently in progress. •



Sunset in the Port of Constanta

Romania

The extension to 4 lanes of the existing traffic road between Gate 10 and Gate 10 Bis is a priority project for the development of the Port of Constanta

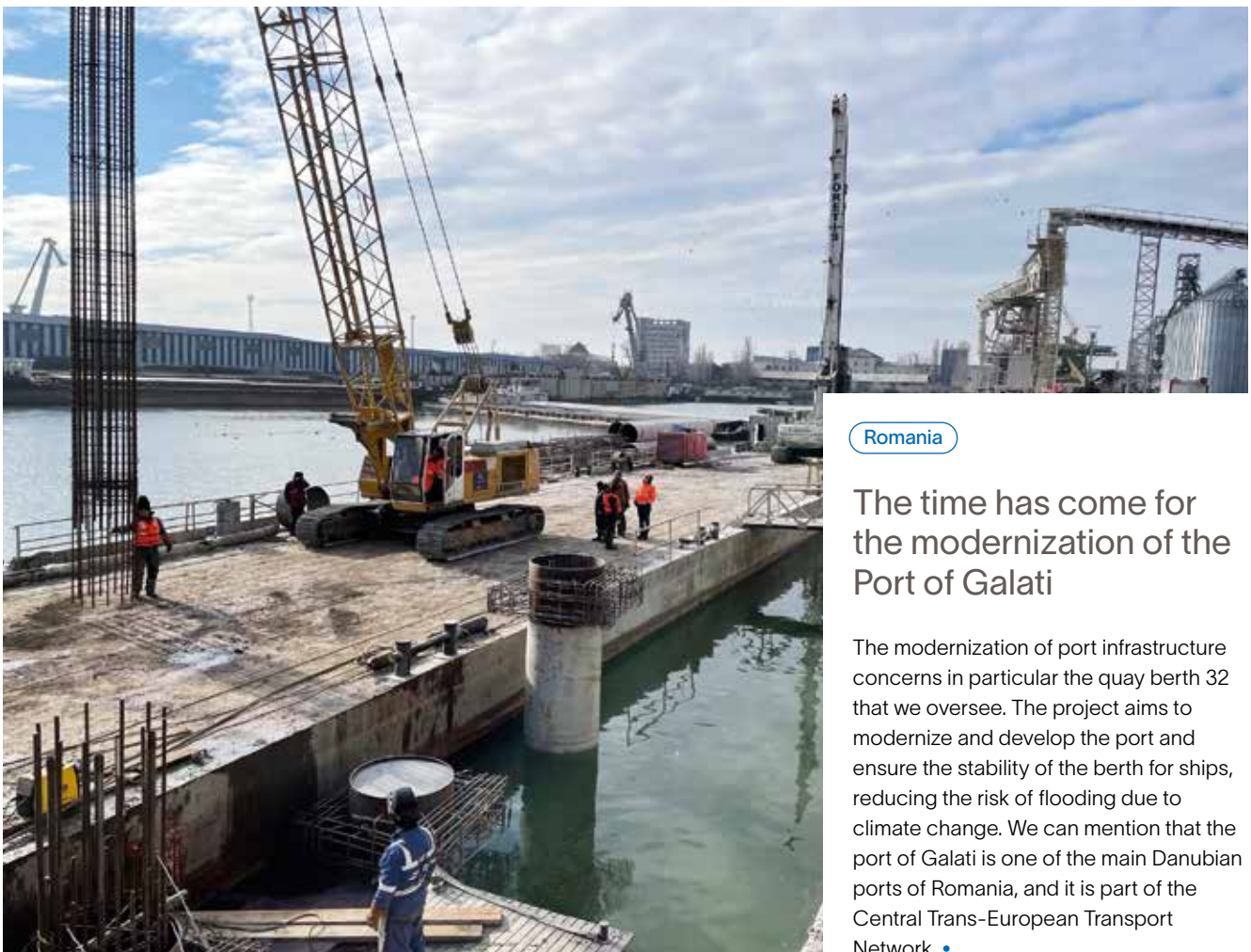
TPF provides consultancy and supervision services for the design and execution of works. Through this project we hope to contribute to the fluidization of the road traffic and to increase the road safety in the area. •



Romania

140 kilometers of track will be rehabilitated in total between the town of Roman and the Moldovan border

Once modernization works are completed, the maximum travelling speed on the electrified double-track line will be 170 km/h for passenger trains and 120 km/h for freight trains. The feasibility study is currently underway and should be completed in 2022. •



Romania

The time has come for the modernization of the Port of Galati

The modernization of port infrastructure concerns in particular the quay berth 32 that we oversee. The project aims to modernize and develop the port and ensure the stability of the berth for ships, reducing the risk of flooding due to climate change. We can mention that the port of Galati is one of the main Danubian ports of Romania, and it is part of the Central Trans-European Transport Network. •



Spain

The construction of line 9 of the Barcelona metro is progressing, this is a success story which has been ongoing for 15 years

A new project management mission began this year with the construction of the 4.2 km tunnel using a tunnel boring machine (TBM). It includes the construction of ancillary works between the Zona Universitaria station and Sagrera Meridiana

station. An exciting new chapter is therefore opening up for TPF. This project is one of the largest and most technically complex ever carried out in the Catalan capital in the 21st century •



Spain

The southern ring road of Albacete connecting the A-32 motorway has been opened to traffic

This new 10.5 km eco-responsible motorway section includes three interchanges and four overpasses and underpasses, and was developed under our supervision. Our mission was not limited to this, since we also supervised the construction of ramps and service roads over 18 km. Regarding the use of environmentally friendly technologies, we can mention in particular the use of waste tire rubber powder for asphaltting, and hydro-seeding of green spaces around the ring road.



Spain

In Madrid, TPF carries out the detailed inspection of the equipment and systems of M-30 ring road tunnels, on a total of 48 km

This work is vital for the safety of users, and we are carrying it out to assess the state of the installations: low and medium voltage power supply, communication and alert, control post, lighting and signaling, ventilation and air quality, fire detection and extinction equipment, video surveillance and automatic incident detection, intelligent traffic control systems, etc. •



Spain

TPF participates in the decarbonization of the urban bus fleet of the municipal transport company of the Madrid conurbation

The company intends to renew its fleet with less polluting electric and compressed natural gas (CNG) vehicles. In this context, our engineering expertise was called upon to study which measures should be taken in the various intermodal hubs in order to allow the entry of fuel cell electric vehicles, running on hydrogen in a safe and efficient manner. •

Spain

We continue to contribute to the establishment of the Mobility Observatory of Cataloni

This project is initiated and supported by the Government of Catalonia and the Metropolitan Transport Authority of Barcelona in charge of coordinating and planning public transport in the Metropolitan Region of Barcelona. Its objective: building a database of the current mobility situation on the scale of the metropolis, interconnecting the information and making it accessible and easily usable by stakeholders. This new portal is powered by data provided by thirty public and private agents. •

Spain

The “Fontán” building is the final piece of the puzzle for Galicia’s City of Culture megaproject

Its construction was piloted by the TPF team in charge of controlling and monitoring the works. This 13,317 m² building is now housing offices, two research centers and an auditorium with a capacity of 750 people, and is part of the vast cultural complex “Cidade de Cultura de Galicia” located at the gates of Santiago de Compostela. The project is dedicated to renewable energies, in particular with the installation of 187 photovoltaic panels on the roof. •



Spain

The Group is committed to making water distribution networks safer and more efficient

Our mission is to locate and detect water leaks in water distribution networks, particularly in Malaga, a city of 500,000 inhabitants. This represents no less than 14,500 kilometers of networks to monitor. TPF has all the expertise required and all the necessary detection devices (pre-locators, geophones, correlators) to make this task a success. •



/ José Manuel Vacas
Vice-President of Operations - Spain

“Spain is one of the beneficiaries of funds from the European recovery plan, which will make it possible to finance projects in the infrastructure sector. These funds are intended to promote green transition, digitalisation, social cohesion and equality. We must make the most of the opportunities available to us, together.” /





"Right below our feet"
Lisbon Metro TBM tunnel near Santa Apolónia Station
(Blue Line) / Portugal
© Rafael João Marques Carvalho do Espírito Santo

Consolidated Accounts 2021

Consolidated Balance Sheet

2020
(000 euros)

2021
(000 euros)

Goodwill, tangible and intangible assets	64 386	64 685
Rights of use assets	26 738	21 544
Other non-current assets	20 287	22 204
Non-current assets	111 411	108 432
Inventories and contract assets	29 619	29 731
Trade receivables	83 770	76 682
Other current assets	20 721	20 934
Cash	24 935	38 192
Current assets	159 045	165 539
TOTAL ASSETS	270 455	273 972
Capital	18 327	18 327
Translation adjustments	-16 383	-14 528
Fair value adjustments of non-consolidated participations	-873	-1 015
Retained earnings	32 868	37 652
Group share in the equity	33 939	40 436
Non-controlling interests	8 642	8 978
Equity	42 581	49 414
Provisions	7 668	9 998
Borrowings	84 752	80 526
Lease obligations	19 156	15 821
Other non-current liabilities	7 484	8 534
Non-current liabilities	119 059	114 878
Borrowings	20 424	23 128
Suppliers	33 399	35 283
Contracts liabilities	6 451	5 628
Lease obligations	8 836	6 323
Other current liabilities	39 705	39 318
Current liabilities	108 815	109 680
TOTAL LIABILITIES	270 455	273 972

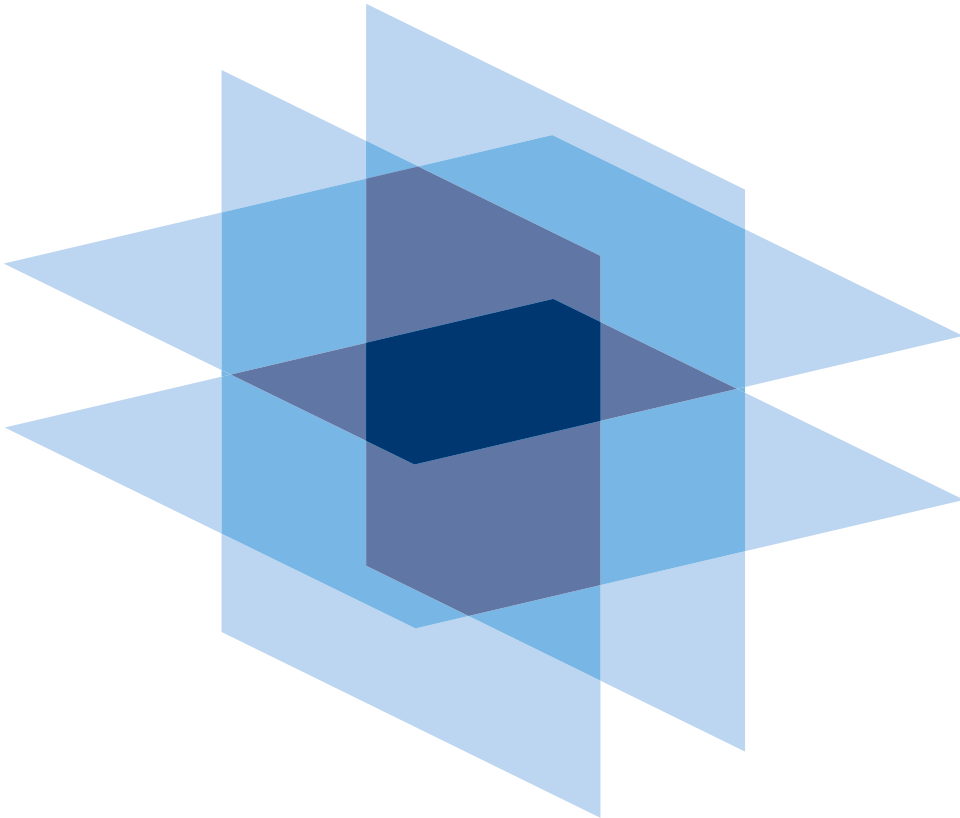
Consolidated Profit & Loss Account

2020
(000 euros)

2021
(000 euros)

Revenues	226 077	246 954
Cost of sales	-62 516	-75 123
Cost of goods and services	-25 346	-25 773
Employee benefits	-100 633	-106 947
Other operating charges	-4 275	-4 241
EBITDA	33 307	34 871
Depreciations and amortizations, write-offs and provisions	-15 605	-17 007
Share in the result of associates and joint-ventures	-162	13
Operating result	17 540	17 877
Net financial result	-8 136	-6 904
Result before taxes	9 404	10 973
Income taxes	-5 244	-5 663
Net consolidated result	4 159	5 310
Share of the non-controlling interests in the net result	712	563
Result of the Group	3 447	4 748

" Our diversified portfolio in terms of services, sectors and geographical zones constitutes a remarkable force in overcoming the challenges we may face."



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